

## MD Roundtable: The Enduring Role of Traditional Glaucoma Surgery, Part 2

In the second installment of this two-part article about traditional glaucoma surgery, Ruth D. Williams, MD, of the Wheaton Eye Clinic, continues the conversation with Anne L. Coleman, MD, PhD, of University of California, Los Angeles (UCLA), and Dale K. Heuer, MD, past president of the American Glaucoma Society. They talk about complications to watch for in trabeculectomy (and MIGS), tubes, how important it can be to learn techniques from colleagues, and future directions for filtering surgery.

### Long-Term Complications

**Dr. Williams:** One of the advantages of trabeculectomy is that it's not very expensive. From a population health perspective, compared to many of our MIGS options, filters are more cost-effective. Dr. Coleman, as an expert in public health, how does this factor into your decision-making?

**Dr. Coleman:** Yes, it is less expensive right now. However, I don't know if I would go out and do trabeculectomies in certain environments; the opportunity for consistent, good hygiene needs to be available as does access to eye care. This is something to be aware of: The way specialists are able to practice at state-of-the-art centers may be very different from how a general ophthalmologist practices in a remote area.

I really do worry about the long-term risk of endophthalmitis, so I think

that it will be beneficial if we develop newer procedures that are less invasive than trabeculectomies or even some of today's MIGS that create blebs.

**Dr. Heuer:** I'd like to follow up on that last thought about MIGS. One of my mentors, Paul Palmberg, talked about "the curse of long-term follow-up," and we're already starting to see some longer-term problems with MIGS. For example, there are a couple of case reports of gel microstent devices that have eroded through the conjunctiva, and with that comes the risk of endophthalmitis. So, it's like everything in glaucoma: There's an initial enthusiasm and then reality starts to set in. Over time we'll have a better sense of where these procedures fit.

All of our patients who are undergoing any procedure that has a subconjunctival filtration approach need to be aware of the symptoms of bleb infection. One of my other mentors, Richard Parrish, taught me the mnemonic "RSVP," for Redness, Sensitivity to light, Vision change, and Pain. I added another P for Pus, so it's RSVP squared. Patients really get that, and I put it in the visit summary notes for everyone who's had a trabeculectomy.

**Dr. Coleman:** And we need to keep



**TUBE SURGERY.** In contrast with trabeculectomy, aqueous shunt surgery is slightly on the rise.

reminding our patients. We may have told them at one point; however, they may forget. So repeating that message is very important.

### Tubes Versus Trabs

**Dr. Williams:** If we look at the Medicare database, the number of tubes being done is increasing slightly over time. Why are the number of trabeculectomies decreasing, but the number of tubes has been stable or increasing over time?

**Dr. Heuer:** I think, in part, that MIGS has displaced more patients who might have been classic trabeculectomy candidates than classic aqueous shunt patients. Also, because of the outcomes of the Tube Versus Trabeculectomy (TVT) study and the Primary Tube Versus Trabeculectomy (PTVT) study, we may be a little more inclined to do a tube in some patients in whom we otherwise might have done a trabeculectomy.

**Dr. Williams:** Let's talk more about

ROUNDTABLE HOSTED BY RUTH D. WILLIAMS, MD, WITH ANNE L. COLEMAN, MD, PHD, AND DALE K. HEUER, MD.

how the TVT and PTVT studies affected your choice of procedures.

**Dr. Heuer:** I should disclose that I am a cochair of both of those studies. But even with the findings, I think there's still a bias toward trabeculectomy. Although the five-year results from TVT and three-year data from the PTVT suggest that tubes do much better than we historically thought (based on the fact that we were initially using them in very high-risk situations), I have to admit that I would probably still have a trabeculectomy. Glaucoma is a very

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—Dr. Heuer

long-term issue, and if the trabeculectomy fails, moving on to a tube is a logical sequence. However, if I have an aqueous shunt first and that doesn't work, in most patients it will probably be technically more difficult to perform trabeculectomy. We've learned a lot of things, ever since the TVT/PTVT studies were designed, that make trabeculectomy a little safer than it was in those studies.

**Dr. Coleman:** I think that's true. At a meeting, I saw a video by one of the surgeons in the TVT study, and the trabeculectomy was done very differently from the way some of the faculty do it at UCLA. The different ways that people are trained to do their trabeculectomies could have influenced the results in that study because the trabeculectomies weren't really standardized.

**Dr. Heuer:** Well, I'm not sure you can standardize it completely, but having said that, you're right.

**Dr. Coleman:** But you could standardize the size of the scleral flap. You could potentially standardize the size of the sclerostomy and the conjunctival closure.

**Dr. Williams:** Although you could standardize techniques for a study, one of the things that makes great surgeons is that we figure out what works in our hands—and what you figured out might be different from what I figured out. You really want a surgeon to do

what works best for him or her. And we're such individualists, and very particular about our techniques, that even if you standardize a procedure, the best outcome might be achieved when the surgeon has developed as his or her own expertise.

**Dr. Heuer:** This reminds me of a phrase that I think was coined by Doug Rhee: "artisanal surgery." And if it was ever true of anything, it's trabeculectomy!

**Dr. Coleman:** I agree. I think one reason that procedures like drainage devices and MIGS are so popular is because they are more standardized procedures that can be done by an eye surgeon.

It is harder to standardize an "artisanal" technique like trabeculectomy.

**Dr. Heuer:** Trabeculectomy techniques have also evolved. If you look back to when we started the TVT study, many people were still doing a lot of limbus-based flaps. There are occasions where I still prefer a limbus-based flap—for example, if someone has a gossamer-thin conjunctiva—but I think most of us have switched to fornix-based flaps with some modifications. Perhaps even the way the mitomycin was applied in the study may not reflect the current approach; many of us have migrated to using injection rather than sponges. Furthermore, the concentration of mitomycin tends to be individualized based on our assessment of each patient's scarring risk-profile, such that lower concentrations are used in many patients than the 0.4 mg/mL concentration that was applied with sponges in the TVT study.

## Learning From Colleagues

**Dr. Williams:** One of the great advantages of having colleagues and watching them do surgery or seeing their post-ops is that we bring training from different programs and learn how to do things differently. I've found it very enriching to learn different techniques and the varied approaches from the glaucoma specialists in my practice.

**Dr. Heuer:** Something has been lost since the dark ages when I came out of training. At that time, an ophthalmologist going into practice would often serve as an assistant, whether it was for cataract surgery or another procedure, so there was cross-fertilization. Now that we're in the era of ambulatory surgery centers and no assistants, we've lost some of that. So, as Dr. Williams suggests, you should avail yourself of that opportunity whenever you can.

**Dr. Coleman:** In my experience, my colleague Joseph Caprioli and I trained at different places. When he came to UCLA 20 years ago, we were very different in terms of how we operated, but over the years, and with the cross-fertilization of the fellows, we now operate more similarly, according to the fellows.

## Looking to the Future

**Dr. Williams:** In closing, can you imagine a time when either trabs or tubes are no longer performed or no longer necessary?

**Dr. Coleman:** I can. I think people are going to work on a cure. I think that's really what the public expects, what patients want, and really what I want.

**Dr. Heuer:** We've been putting a hole in the eye wall for over 150 years, and so I hope that time does come. Still, I think there will be niche diagnostic categories where something akin to trabeculectomy or perhaps aqueous shunts will be necessary. But maybe a hundred years from now, doctors will look back and say, "My goodness, how in the world could they bring themselves to do that to the eyes?"

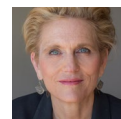


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