PEARLS FROM THE DEEP

The Annual ACES/SEE Caribbean Eye Meeting delves into hot topics for anterior segment surgeons and health care professionals.

From January 31 to February 3, 2020, the upcoming Caribbean Eye Meeting promises to be as engaging as in previous years. This one-of-a-kind meeting, held at Grand Fiesta Americana Coral Beach in Cancun, Mexico, will gather well-known leaders in ophthalmology to discuss important topics in eye care against the breathtaking backdrop of the Caribbean Sea. The American College of Eye Surgeons (ACES) and the American Board of Eye Surgery (ABES) were started in 1989, with ACES as the educational arm. ABES began to ensure quality surgery throughout the United States, and its efforts were taken internationally 13 years ago. ACES and ABES, along with the Society for Excellence in Eyecare (SEE), are proud to be entering the 30th annual meeting! Together, ACES, ABES, and SEE share a commitment to the belief that the primary focus for today's ophthalmologist must, and should, be to promote, encourage, and enhance quality ophthalmic surgical care for the benefit of all patients.

PEARLS FROM THE DEEP: HOW MUCH ASTIGMATISM SHOULD WE TREAT?

By Gary Wörtz, MD

A few years ago, I began using a femtosecond laser in hopes of improving my surgical precision. I was a novice at performing arcuate incisions to reduce astigmatism, and I wanted to use this technology to help my patients. Because I have always used toric lenses to correct more than 1.00 D of astigmatism, my approach to these patients remained essentially unchanged. What changed was my ability to address astigmatism of 1.00 D or less while using the laser for other parts of the cataract procedure.

At first, I used a 9-mm optical zone at 80% depth, but I observed a fair amount of undercorrection against the rule and overcorrection with the rule. This was a rookie mistake. Douglas Koch, MD, and colleagues have shown that, on average, anterior corneal measurements underestimate total corneal astigmatism by 0.22 D @ 180° and more than 0.50 D in 5% of patients.[1] I know that my surgically induced astigmatism (SIA) is about 0.50 D. Based on Dr. Koch's data and my SIA, I needed to artificially lower my SIA. I also transitioned to operating directly at 180° and 0°, even though I am much more comfortable at 200° and 20°.

In the past, I felt conflicted about offering refractive cataract surgery to patients with less than 1.00 D of astigmatism. I was not sure if basic cataract surgery would give them the same results. Making the aforementioned adjustments, however, and tracking my results over the past few years have shown me that treating low levels of astigmatism with a femtosecond laser offers real value. When comparing similar groups of patients with less than 1.00 D of preexisting anterior corneal astigmatism, I found that those who received laser arcuate incisions were 57% more likely to achieve 20/20 UCVA or better and 39% were more likely to achieve 20/25 UCVA or better compared with patients who did not receive arcuate incisions. Also, 89% of patients who received arcuate incisions ended up with less than 0.50 D of residual astigmatism, which was a 25% improvement compared to untreated patients. All of these differences were statistically significant ($P < .0001$). There was no significant difference between groups regarding the number of patients whose results were within 0.50 D of the targeted spherical equivalent refraction.

In short, I have learned that astigmatism matters and that I must treat it to optimize surgical results. For me, using a femtosecond laser has made this process straightforward, precise, and—frankly—easy. ■

1. Koch DD, Ali SF, Weikert MP, et al. Contribution of posterior corneal astigmatism to total corneal astigmatism. *J Cataract Refract Surg*. 2012;38(12):2080-2087.

GARY WÖRTZ, MD

- Private practice, Commonwealth Eye Surgery, Lexington, Kentucky
- Founder and Chief Medical Officer, Omega Ophthalmics, Lexington, Kentucky
- garywortz@gmail.com
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