

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

From February 3 to 6, 2023, the upcoming Caribbean Eye Meeting promises to be as engaging as in previous years. This one-of-a-kind meeting, held at the JW Marriott Los Cabos Beach Resort & Spa, will gather well-known leaders in ophthalmology to discuss important topics in eye care against the beachfront backdrop where the Sea of Cortez meets the Pacific Ocean. 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. 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: THE LOW ASTIGMATISM CONUNDRUM

By Gary Wörtz, MD

Limbal relaxing incisions (LRIs) and corneal relaxing incisions (CRIs) can be a safe and effective way to correct astigmatism at the time of cataract surgery. Calculators such as LRcalculator.com and nomograms such as Donnenfeld and NAPA are helpful, but there is a gap in terms of what guidance these tools provide for low levels of astigmatism.

My colleague, Preeya Gupta, MD, and I developed a nomogram for femtosecond corneal arcuate incisions that increased the odds of achieving 20/20 VA by 1.8 times, even for low levels of astigmatism.<sup>1</sup> The nomogram is designed to be used for arcuate incisions that correct less than 1.20 D of astigmatism, with a bias toward the use of toric IOLs when appropriate.

Historically, LRI calculators are designed to debulk astigmatism—not to correct small amounts of astigmatism. Conversely, our calculator (available for free at

[www.LRlcalc.com](http://www.LRlcalc.com); Figure) is designed to determine the treatment plan for lower amounts of astigmatism, and it uses only minimal data. The user inputs an ID number and selects the eye (right or left), age of the patient, the total amount of corneal astigmatism, and the steep axis. The steep and flat keratometry are not required for the nomogram, and a generic level of surgically induced astigmatism is included in the nomogram. The placement of the incision in this nomogram is based on a temporal incision (either zero or 180°). With our nomogram, the incision must be made horizontally and the arcuate incisions placed on the steep axis. The calculator will never recommend an arc length larger than 50°.

### ANALYSIS

Our team conducted an analysis to determine the efficacy of the nomogram. More than 250 eyes with an average corneal astigmatism of 0.63 D

were included. The average length of the arcuate incisions derived by the nomogram was 29°. Postoperatively, the average corneal astigmatism improved by about 50% to 0.33 D. About 84% of eyes were within  $\pm 0.50$  D of residual astigmatism and 59% were within  $\pm 0.25$  D.

We also conducted a subgroup analysis of patients who had between 0.75 and 1.00 D, 0.50 and 0.75 D, and less than 0.50 D of astigmatism preoperatively. We found that the more astigmatism patients had preoperatively, the more reduction in astigmatism they achieved postoperatively, and the less astigmatism they had, the less they ended up with.

### CONCLUSION

Managing low levels of astigmatism matters, especially with multifocal IOLs. The tools we have that can fix low levels of astigmatism keep improving, and our nomograms must keep up with these improvements. ■

1. Wörtz G, Gupta PK, Goernert P, et al. Outcomes of femtosecond laser arcuate incisions in the treatment of low corneal astigmatism. *Clin Ophthalmol*. 2020;14:2229-2236.

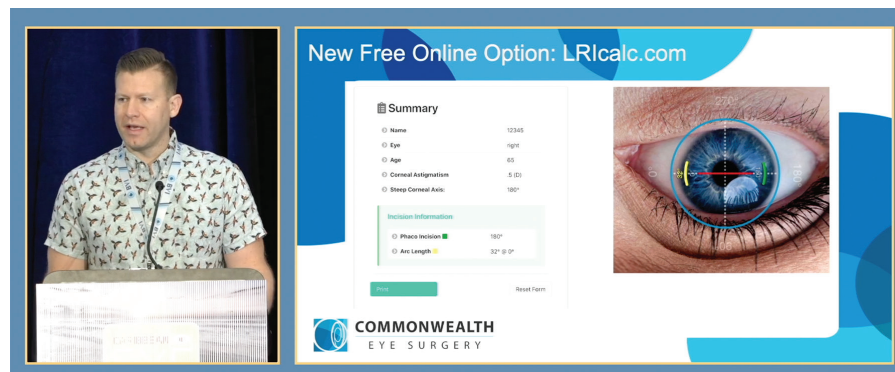


Figure. Screenshot from LRlcalc.com.

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