



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



X MARKS THE SPOT

By Denise M. Visco, MD

Refractive cataract surgeons know that successful treatment plans begin with meticulous, high-quality topography. A practice's ability to achieve such a high standard depends upon technician skill level, quality of the corneal surface, and practice workflow. Using Lean Six Sigma methodology removes waste and reduces variations in surgical processes, which in turn promotes continuous improvement in the quality and utility of preoperative diagnostics.¹⁻³

My practice has several topographers, all of which can wirelessly transfer surgical planning data to the Lenstar Laser System (Lenstar). The question my staff, my colleagues, and I had was which technology did the best job. If one device led to superior outcomes, we might divert the practice's resources and systems differently. We decided to study the matter.

Our goal was to compare the effectiveness of iris registration-guided laser arcuate incisions performed during cataract surgery using two different preoperative diagnostic instruments: Cassini (i-Optics) and Pentacam HR (Oculus Optikgeräte). Our retrospective chart review included 52 healthy eyes with an expected BCVA below 20/30 that underwent laser cataract surgery using iris-registered arcuate incisions. The primary outcome measure was residual refractive astigmatism at 4 to 6 weeks after surgery.

The Pentacam group (n = 26) had a mean preoperative ΔK of 0.94 ± 0.35 D (range, 0.50–1.70 D). The Cassini group (n = 26) had a mean preoperative ΔK of 0.96 ± 0.33 D (range, 0.50–1.60 D). At postoperative week 6, residual refractive astigmatism was 0.22 D and 0.17 D for the Pentacam and Cassini groups, respectively. The difference was not statistically significant (Figures 1 and 2).

The devices produced similar outcomes using the Lenstar Laser System with Streamline. Our findings were extremely important for our practice. First, we showed that iris registration-guided laser arcuate incisions performed during cataract surgery effectively reduced residual refractive astigmatism when preoperative corneal astigmatism ranged between 0.50 and 1.90 D. Second, we found that, with surgical planning,

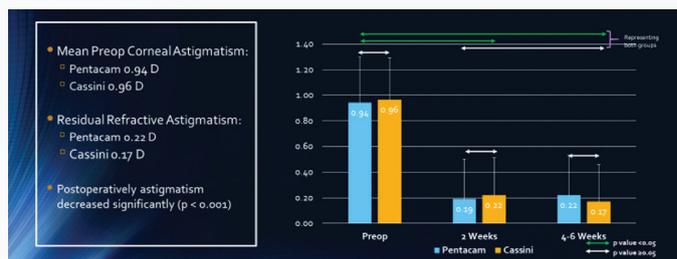


Figure 1. The author's practice found no statistically significant difference in outcomes with the Pentacam and the Cassini.

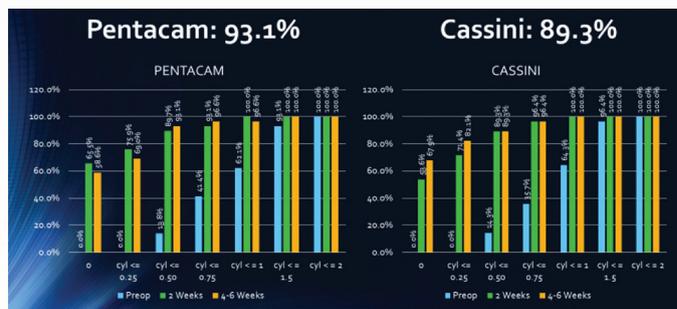


Figure 2. Residual refractive astigmatism of 0.50 D or less.

topographical data that had the best quality and reproducibility could be submitted regardless of which device we used to obtain them. Thus, we can increase efficiency for both patients and staff by decreasing the number of studies repeated. ■

1. Expert excerpts: Mark Graban on Lean in healthcare. <https://goleansixsigma.com/expert-excerpts-mark-graban-lean-healthcare/>. Accessed October 5, 2018.
 2. Geyer S. Lean Six Sigma changing healthcare as more providers adopt methods. *Healthcare Finance*. <https://www.healthcarefinancenews.com/news/lean-six-sigma-changing-healthcare-more-providers-adopt-methods>. Published May 12, 2015. Accessed October 5, 2018.
 3. Lean Six Sigma in healthcare. ASQ website. <http://asq.org/healthcaresixsigma/lean-six-sigma.html>. Accessed October 5, 2018.

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