

# Keep Enhancement Rates Low

THOMAS G. ABELL, M.D.

Word has been spreading rapidly throughout the eye care community about the tremendous advantages of using the Allegretto Wave Laser (WaveLight Laser Technologie AG, Erlangen, Germany).

Firing at 200 Hertz, the laser uses proprietary wave-

front-optimized nomograms to deliver a larger number of pulses to the peripheral cornea, compensating for the more tangential energy delivery at the periphery. This increase in peripheral corneal ablation reduces the induction of spherical aberration and helps to maintain the normal aspheric corneal shape,<sup>1</sup> thus enhancing visual quality. In addition

to the outstanding outcomes they are obtaining, physicians are experiencing extremely low enhancement rates with this laser.

## Outcome Analysis: Striving for Perfection

I believe surgeons can achieve low enhancement rates by using the appropriate outcome-based nomogram and by paying attention to detail. Currently, my enhancement rate with the Allegretto Wave is only 0.5%. My nomogram (developed by Refractive Surgery Consultants, LLC [RSC]) involves the collection of patient data and parameters, such as the patient's refraction, corneal curvature readings and age, and then pairs the database to a suggested treatment plan.

In a study conducted at AbellEyes Laser Vision Center in Lexington, Ky., patients were selected with preoperative BCVA of  $\geq 20/20$ . The study protocol excluded monovision reversals (an additional surgery correcting the myopic eye to plano), hyperopic patients, noncompliant patients and patients with pre-existing pathology.

Using the RSC nomogram, the spherical correction results were truly linear as compared to the non-nomogram adjusted results. The cylinder scattergram shows more scatter in the non-nomogram adjusted group, with approximately a 20% overcorrection for cylinder. Clearly, with the use of the RSC nomogram, the surgical results are far superior. A slight under-correction was observed in the nomogram-adjusted group, but the consistency of the results continues to improve as more data sets are added.

Careful analysis indicates that it is important to trust the nomogram. The 1 month and 3 month uncorrected visual acuity (UCVA) results are excellent with continued improvement as the patient recovers. The targeted correction vs. achieved correction results are remarkable, especially the fact that 63.3% of patients achieved within  $\pm 0.25$  D of the targeted goal (Figure 1). The 3 month UCVA results revealed that greater than 97% of patients achieved visual acuities of 20/20 or better. Ninety eight point five percent of patients experienced a gain or no change in the 3 month BCVA.

The Allegretto Wave, used in conjunction with the RSC nomogram software, provides the lowest enhancement rates possible and that is why AbellEyes Laser Vision Center uses this laser for all enhancement procedures. If surgeons follow the RSC based nomogram, they should be absolutely delighted with the results.

## Net Cash Flow Advantage

From fixed overhead costs alone, I estimate that surgeons can expect to lose from \$500 to \$700 for each retreatment, excluding the effects on internal marketing (decreasing enthusiastic word-of-mouth, staff advertising

Figure 1

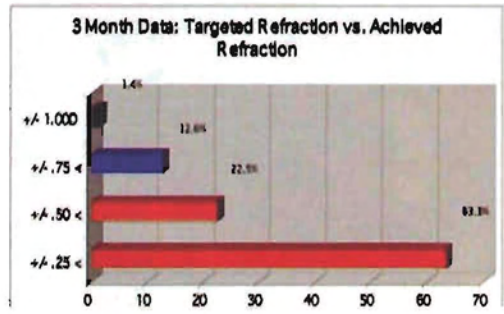


Figure 1. 98.4% of patients achieved the targeted refraction within  $\pm 0.75$  D. 85.8% of patients obtained the targeted refraction within  $\pm 0.50$  D. (Graph courtesy of Thomas G. Abell, M.D.)

efforts, etc.). Whether one calls it a refinement, an enhancement, or a re-do, the patient will still perceive that the initial surgery did not go as well as planned and this results in the loss of referrals. I believe that one enhancement procedure can cost the practice the equivalent of five lost patients.

## Low Enhancement Rates: A Priceless Benefit to Your Practice

Two of the most critical factors in a successful LASIK practice are to achieve excellent outcomes and to minimize enhancement rates. There is no easy way to sell an enhancement to your patients. Beyond the direct effect on office overhead, a surgeon will see benefits through increased patient confidence, stronger word of mouth referrals and a reduction in liability exposure. We have seen first hand how the Allegretto Wave has contributed to low enhancement rates. We even use this laser to enhance patients previously treated with other lasers because we are more confident in successful final outcomes.

Low enhancement rates should be a priority for all LASIK surgeons. In our hands, outcomes and enhancement rates with the Allegretto Wave have been outstanding and we can unreservedly recommend this technology to our patients and colleagues. OM

Thomas G. Abell, M.D., practices at AbellEyes Laser Vision Center in Lexington, Ky. He can be reached at drabell@mindspring.com and his website is at www.abelleyes.com. Dr. Abell has no financial interest in WaveLight Laser Technologie AG.

## REFERENCES

1. Mrochen M, Donitzky C, Wullner C, Loffler J. Wavefront-optimized ablation profiles: theoretical background. *J Cataract Refract Surg*. 2004;30:775-785.