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The Best Vision Newsletter

New Advances in VISX Wavefront Laser Vision Correction

We are very pleased to have been offering Custom Wavefront Laser Vision Correction (CWLVC) to suitable candidates since it was first made available last year. Wavefront-guided laser vision correction permits "customized" treatment of a patient's refractive condition. Our experience has confirmed this to be an important advance in laser vision correction and we recommend it for the majority of laser vision correction patients. This newsletter will discuss three important advances in CWLVC treatment on the VISX laser platform each of which have been recently FDA approved. A closer look will demonstrate why these advances may hold the promise of even better visual results in our CWLVC patients.

1. Fourier analysis is a mathematical algorithm that can be used to describe an eye's unique wavefront pattern in a way that permits enhanced resolution of the reconstructed image. Fourier analysis uses all 240 data points within the pupil and is better able to recreate complex wavefront shapes than first generation calculations that use Zernike polynomials. By comparison, Zernike calculations are limited by requiring adjacent and interpretable data points. First-generation wavefront LVC employing Zernike calculations exclude information from the pupillary border and also produce less detail (smoothing) because only about 26 data points are used. In contrast, Fourier analysis produces higher resolution of the same wavefront information and can also incorporate additional wavefront information for ablation zones greater than or equal to 7mm. More accurate customized laser ablation profiles can now be created as necessary to correct complicated refractive conditions of the eye. In challenging cases, the patient's individual wavefront laser ablation pattern can be first etched onto a "preview" lens that the patient can look through to verify that the intended laser ablation improves vision as expected, before actually treating the eye. Fourier analysis is the new current standard in all VISX customized LVC procedures.

2. Iris recognition software is another new VISX upgrade that permits the laser ablation to be precisely registered onto the cornea with automated compensation for cyclotorsion during custom treatment. This advance should further enhance the high quality of vision we already achieved with this procedure.

3. Patients treated with CustomVue (VISX) for hyperopia had a high rate of patient satisfaction and excellent results at six months: 79% Uncorrected Visual Acuity (UCVA) 20/25 or better 98% within 1 diopter of intended. This approval is specifically indicated for wavefront-guided LASIK for correction of hyperopia with or without astigmatism up to +3.00D, with cylinder up to +2.00D

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We dedicate ourselves to enhancing the quality of life for every individual whose life we touch, by helping each to see his or her best, and by preserving our patients' vision and eye health throughout life.

We welcome the opportunity to provide the latest wavefront advances for your laser vision correction patients.

Schedule a complementary examination for your patients or staff today!

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