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News

New Bausch & Lomb *Zyoptix*® XP Microkeratome Produces As Predictable and More Accurate LASIK Flaps As Per Intended Thickness Than Intralase® Femtosecond Device, Study Finds

Results of First Controlled, Contralateral Study Comparing New Microkeratome Technology vs. Intralase Presented at American Academy of Ophthalmology Conference

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ROCHESTER, N.Y. − Data presented at the American Academy of Ophthalmology Conference Oct. 15 in Chicago from the first head-to-head contralateral study comparing the outcomes of the latest Bausch & Lomb microkeratome technology against the *Intralase* Femtosecond (FS) device show that the new Bausch & Lomb *Zyoptix*® XP microkeratome:

- Was statistically significantly more accurate with respect to intended flap thickness;
- Produced on average thinner corneal flaps with respect to intended flap thickness;
- Had a comparable standard deviation in flap thickness;
- Demonstrated equivalent uncorrected and best-corrected visual acuity under high- and low-light contrast conditions.[1]

"The study findings strongly suggest that surgeons who use the *Zyoptix* XP microkeratome can expect to achieve the same level of precision, predictability and outcomes that have been ascribed to the latest generation laser flap-creation technology," said lead investigator Hung Ming Lee, M.D.

The prospective, randomized, controlled, contralateral eye study compared flap thickness as measured by both conventional ultrasound pachymetry and advanced optical coherence pachymetry (OCP). The study results, based on 100 eyes of 50 patients, showed:

- The *Zyoptix* XP microkeratome achieved an average flap thickness **more consistent** with intended flap thickness of 120 microns, with a mean flap thickness 4 microns thinner as measured by ultrasound pachymetry (US) and 11 microns thinner as measured by advanced optical coherence pachymetry (OCP). Whereas the *Intralase* device achieved a greater-than-intended flap thickness, on average thicker by 32 microns as measured by US, and 17 microns thicker as measured by OCP.

- The *Zyoptix* XP microkeratome demonstrated **greater accuracy** in creating an intended flap thickness of 120 microns, producing a mean flap thickness of 116 microns as measured by US, compared to the *Intralase* device which produced a mean flap thickness of 152 microns.

- The *Zyoptix* XP microkeratome and the Intralase device were **equivalent in standard deviation** in flap thickness, with the *Zyoptix* XP at 16.1 microns (US) and 14.4 microns (OCP), and the *Intralase* device at 16.2 microns (US) and 15.9 microns (OCP).

- The *Zyoptix* XP microkeratome had an almost three-fold **reduction in suction time** duration and more than a seven-fold **reduction in total surgery time** compared to the *Intralase* device.

- The *Zyoptix* XP microkeratome and the *Intralase* device were equivalent in uncorrected and best corrected refractive outcomes under high- and low-contrast conditions as measured at one month post-operatively; with 92% of the *Zyoptix* XP keratome-treated eyes measuring within +/-0.50D as compared to 87% of the *Intralase*-treated eyes.

"The results of this contralateral study have demonstrated that both technologies deliver excellent performance and precision, but more importantly to me, the visual outcomes are equivalent in both high

[1] Data on file, Bausch & Lomb, Rochester, N.Y.

and low contrast conditions. Having access to these technologies and others, I find that I use the Zyoptix XP microkeratome in about half of my cases" said Dr. HM Lee.

Refractive surgeon Robert Maloney, M.D., of the Maloney Vision Institute in Los Angeles added. "This study provides strong evidence that the new Zyoptix microkeratome is as precise and even more accurate in terms of intended flap thickness, than the Intralase FS device."

The study was conducted at the internationally-renown Eye Institute at Tan Tock Seng Hospital in Singapore, which gained global attention when it was designated as the sole treatment center for the SARS epidemic in Singapore.

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