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HIGH ORDER ABERRATION CHANGE AFTER INTRALASIK WAVEFRONT SURGERY AND STANDARD MECHANICAL WAVEFRONT SURGERY IN MYOPIA PATIENTS

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PURPOSE: Compare the High order aberration change between IntraLase femtosecond laser with wavefront LASIK and standard wavefront LASIK with microkeratome.

METHODS: 165 eyes of myopic patients underwent wavefront guided LASIK treatment using Visx S4 system. The femtosecond laser (60kHz intraLase) was use for flap creation in 91 eyes and Microkeratome (Moria M2) where used for 74 eyes. Wavefront examination were done before and after the treatment at 2 month. The intra LASIK and mechanical LASIK induced change in HOA were compared both as an overall RMS and in detail groupings. (trefoil, coma, spherical aberration)

RESULTS: HOA change was not found to be different between IntraLASIK wavefront and Standard wavefront groups. IntraLASIK patients show no more HOA increase post surgery compared to Standard wavefront procedure ($P=0.637$). Mean IntraLASIK RMS increase in 2 month is 0.2434 ± 0.245 vs Standard wavefront RMS change 0.2259 ± 0.2239 . In different groups of HOA we found that the change in spherical aberration is the most significant post operation, but the different between the two group has not reach significancy.

CONCLUSIONS: Intra-LASIK wavefront surgery demonstrated no benefit in High order aberation change than standard mechanical wavefront LASIK.