

Andreas van der Heide, M.Sc. in Vision Science and Business (Optometry)¹

Objectives: To determine the rate of myopia progression in young patients fit with a commercially available customized center distance multifocal soft contact lens (MFSCCL) producing peripheral defocus theoretically expected to reduce the speed of myopia progression.

Methods: A retrospective analysis of 74 eyes of 45 patients (starting ages 4–23 years, mean 13.93 ±3.64 Standard Deviation), 43 (58%) females, 31 (42%) males from 11 ophthalmologist and optometry practice locations was performed. 41 (55%) eyes were fitted by ophthalmologists, optometrists fitted 33 (45%) of the lenses. Before the RELAX lens wear, 46% wore glasses, 17% nothing, 16% glasses and soft single vision contact lenses (SV CL), 13% SV CL, and 8% glasses and other myopia control CLs. All patients showed myopia progression in the two years before study start, the mean progression was -0.73 ± 0.34 diopters (D), the mean refractive error at study start -2.26 ± 0.97 D. All patients were fit at study starting with a customized RELAX MFSCCL with distance vision in center (SwissLens SA, 1008 Prilly, Switzerland). All patients wore the lenses for at least 18 months (mean: 2.61 ± 0.9 years). The date of the last order was no further than 2016.

Results: The rate of annual myopia progression was reduced from 0.73 ± 0.34 D to 0.21 ± 0.17 D ($P < 0.001$). The study data set showed an effectivity of $64.5\% \pm 35.7\%$ in myopia progression reduction. 94.6% of the patients showed a reduced annual myopic progression; 77% showed a reduction of 50% or greater. In 13.5% of the patients, myopia progression stopped completely. 73% of the patients showed an annual progression of ≤ 0.25 D after wearing RELAX lenses.

Conclusions: This individually customized multifocal soft contact lens with distance center was effective in reducing myopia progression in these patients. The findings of this study add to the growing evidences that center distance multifocal soft contact lenses may slow the progression of myopia and are a good myopia management option.

Key Words: Myopia control— Myopia Management— Customized soft contact lens— Center distance multifocal— Myopic progression— Peripheral defocus.

Acknowledgments

The author thanks all participating contact lens fitters and SwissLens for their support by delivering data.

¹ Konstantin Tsiounis AG, Glarus (Switzerland)