

New Clinical Evidence Through 5 years: NaturalVue Multifocal for Myopia Management

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Introduction

Myopia is increasing around the world. Myopia is certainly recognized globally as a major public health issue. The World Health Organization has prioritized it as the second largest cause of blindness and the leading cause of moderate and severe vision impairment¹. It is estimated that by the year 2050, 5 billion people on the planet will be myopic². A whopping 1 billion will be highly myopic.² Myopia is caused by increases in axial length, and this axial elongation carries with it risks for ocular diseases such as cataracts, glaucoma, retinal detachment, and myopic maculopathy³. With traditional correction of myopia, the foveal image is in focus, but the peripheral light rays may fall behind the retina, creating peripheral hyperopic defocus, which is thought to stimulate a growth signal and lead to the lengthening of the eye⁴.

Objective

To evaluate the rate of progression of myopic refractive error and axial length in children fit with a commercially available, center-distance, aspheric, extended depth of focus, multifocal soft contact lens with attributes theoretically expected to slow the progression of myopia.

Methods

A retrospective case series analysis of data from 153 children (305 eyes), ages 5-21 years (mean age at fitting: 12.0±2.8 years), from 13-US-based practice locations (15 ECPs) was performed.

All participants showed progression of at least -0.50 D with current corrections in at least one eye at baseline and were fit with the NaturalVue Multifocal 1 Day contact lenses between December 2014 and December 2019. Follow-up time was 6 to 59 months.

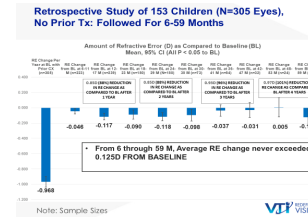
None of these subjects had used prior myopia progression control interventions

Results

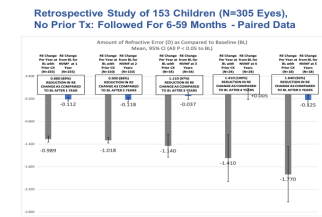
- 0.90 D reduction in refractive error change, or 90% (calculated average OU)
- 93% of the children showed a reduction in myopic progression
- 65% showed a decrease of 70% or greater.
- 42% had no increase in myopic progression
- 55% reduction in axial length at approximately the 3-year time frame - the average AL change was 0.10mm/year or less (small sample size noted*)

*NOTE: this was a small sample; There was no 5-year data on axial length because most of the investigators did not have the equipment to measure axial length at the time of the start of data collection (Dec 2014)

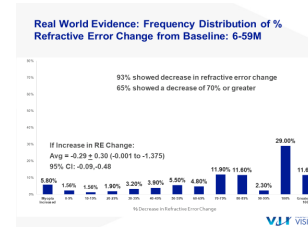
Results (Continued)



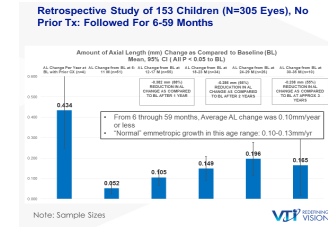
Refractive Error Change



Refractive Error Change - Paired Data



Distribution Graph - Refractive Error Change



Axial Length Change (mm)

Conclusions

The unique, center-distance, aspheric, extended depth of focus design of NaturalVue Multifocal 1 Day contact lenses continues to be proven effective in reducing myopic progression, even through 5 years for some children. These findings add to the growing evidence that center-distance, multifocal soft contact lenses may slow the progression of myopia.

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References:

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