

NCC 'FUTURE GENERATION 2024' PAPER Abstracts
SCIENTIFIC SESSION IN COOPERATION WITH THE BCLA

NCC 'Future generation 2024'

Organization Section: NCC/ BCLA

PAPER Abstracts

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Six year cumulative treatment effect of MiSight® 1 day: a dual focus myopia control contact lens

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Purpose: Slowed axial elongation of myopic children treated with MiSight® 1 day (M1D) was quantified over 6-years using concurrent and virtual control untreated myopic eyes

Method: Axial lengths of myopes (average age at baseline = 10.5) treated for 6 years with M1D or fit with a control single vision lens for 3 years and switched to M1D for 3 years (at an average age of 13.5) were measured annually (IOL Master).

Treatment effects were quantified by the difference in average axial growth of treated eyes, growth of study control eyes, expected growth of untreated age-matched myopic eyes and expected growth of age-matched emmetropic eyes. Efficacy was also quantified by the time delay to reach criterion growth levels created by treatment, and a "survival analysis" quantifying the probability of NOT reaching criterion growth at each annual measurement point.

Results: Treated eyes experienced annual growths slower than control eyes during 6 or 3 treatment years ($p < 0.05$), accumulating to an average difference in growth of 0.52mm and 0.19mm for eyes treated for 6 and 3 years respectively. Treated eyes grew at rates comparable to age-matched emmetropes. Mean growth rates of untreated eyes slowed and treatment effect in mm declined over

time but remained stable when expressed as a % of myopic control growth. Average axial elongation after 6 years of treatment (0.48mm) was reached by the untreated eyes in 2.1 years, revealing almost 4-years delay in growth. Survival analysis revealed treatment with M1D reduced the likelihood of 0.3mm of axial progression by 95% over a 3-year time-period compared to single vision correction.

Conclusions: Estimated growth of age-matched emmetropic and untreated myopic eyes provided evidence of year-on-year slowing of axial elongation accumulating to 0.52 mm over 6 years. Treated growth levels remained close to emmetropes. M1D delayed the time to reach criterion growth by 4 years.

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