NCC 'GET CONNECTED 2026'
Organization Section: NCC/ BCLA
Poster Abstracts
Monday 9 March 2026, Netherlands, Veldhoven, NH De Koningshof, Baroniezaal

Efficacy of contrast management spectacle lenses in North American and Chinese children

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Purpose: To evaluate myopia control efficacy of contrast management spectacle lenses in North
American and Chinese children.
Method: Two multicenter randomized controlled clinical trials evaluating Diffusion Optics Technology
(DOT) spectacle lenses with similar study protocol were selected for analysis. The first was a 4-year clinical trial held in North America (NCT03623074) that recruited myopic children aged 6 to 10 years, of which 75% were Caucasian and 20% were Black or African American. The second was a 2-year clinical trial run in China (NCT05562622) that recruited myopic children aged 6 to 13 years, of which 100% were Chinese. Meta-analysis was performed to derive pooled treatment effect estimates for axial length (AL) and cycloplegic Spherical Equivalent Refraction (cSER).
Results: Although the two study populations (n =174 North America, n =128 China) were well-matched in terms of age, sex and cSER (all p>0.05), baseline AL was significantly longer in the Chinese study (p<0.05).
Compared to control, AL and cSER progression were slower with DOT lenses in both studies, with an absolute reduction (mean ± SE) of -0.15 ± 0.03 mm, 0.34 ± 0.07 D in North American children and -0.29 ± 0.04 mm, 0.54 ± 0.09 D in Chinese children (all p<0.001). Meta-analysis yielded pooled treatment effects of -0.20 ± 0.02 mm (95% CI: -0.25 to -0.15 mm, p<0.0001) and 0.42 ± 0.06 D (95% CI: 0.31 to 0.52 D, p<0.0001).
Conclusions: DOT spectacle lenses significantly slowed myopia progression and axial elongation across both clinical trials evaluated at one-year, demonstrating DOT lenses can significantly slow the progression of myopia in children from diverse populations.

This research received funding from: *The study was sponsored by Sightglass Vision*