Oral presentation at ARVO 2026.
Du, L., et al. (2026, May 3-7). Slowing myopia progression with a novel spectacle lens – 1 year, randomized double-blind, cross over clinical trial. [Conference presentation abstract]. The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Denver, CO, United States.

Purpose: To evaluate the effectiveness of a novel spectacle lens incorporating annular refractive elements in paracentral area and zones of plus power at periphery in slowing the progression of myopia as compared to single vision (SV) spectacle.

Methods: In a prospective, double-masked, cross-over trial, 120 children aged 6-12 yrs, spherical equivalent (SE) of -0.75D to -5.00D were enrolled and randomly assigned to wear either SV (n=60) or TAMER (ZEISS MyoEase, Carl Zeiss Vision Gmbh, Aalen, Germany) spectacles (n=60). TAMER lens incorporates a central clear zone of 7 mm, four annular cylindrical rings in the para central zone (up to 13mm radius from center) with a mean surface power of +4.0D. On the back surface of the lens, the surface continuously increases in positive power with up to +1.50D at the lens edge. For the first 6 months (stage 1), children wore assigned lenses and then crossed over to wear the other lens for the second 6 months (stage 2). Cycloplegic SE and axial length (AL) were measured at baseline and every six months. Changes in SE and AL from baseline were determined at 6 monthly intervals, presented as mean and 95% confidence intervals (CIs). Differences between groups were assessed using multiple linear regression, adjusting for relevant confounders. To determine rebound effect, progression with SV during stage 2 was compared to progression with SV in stage 1.

Results: Progression (mean ± SD) was significantly slower with TAMER during both stages. During stage 1, SV progressed by -0.43D (95% CI: -0.51 to -0.35D) compared to -0.11D (-0.19 to -0.03D) with TAMER. AL changes were 0.20mm (0.17 to 0.23mm) with SV and slower at 0.08mm (0.05 to 0.10mm) with TAMER. The differences (Δ) between groups were 0.32D and 0.12mm ($p<0.001$). During stage 2, progression with SV was -0.54D (CI: -0.61 to -0.46D) and 0.21mm (0.19 to 0.24mm) while TAMER progressed by -0.29D (-0.36 to -0.21D) and 0.11mm (0.08 to 0.13mm). The differences between groups were 0.25D and 0.11mm ($p<0.001$). Progression with SV during stage 1 and stage 2 didn't differ significantly (SE: -0.42 ±0.31D vs -0.51± 0.30D, p=0.119; AL: 0.19 ±0.11mm vs 0.22± 011mm, p=0.182).

Conclusions: Results confirm that TAMER lenses significantly slow myopia. Furthermore, when children switched from TAMER to SV in Stage 2, the rate of progression was similar to the progression with SV observed in stage 1, indicating no rebound.