



Press Release

ZEISS MyoCare Portfolio: Efficacy Confirmed in Asian and Caucasian Children

ZEISS presents latest research results on slowing myopia progression

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In ongoing multi-center trials across Asia and Europe, lenses from the ZEISS MyoCare portfolio are seen to significantly slow progression of myopia as compared to single vision lenses.

Meeting the need for robust evaluation

The rising global prevalence of myopia is accompanied by a growing burden. (1) Therefore, it is imperative to develop effective solutions to manage myopia. ZEISS has been at the forefront of myopia management for decades and with the latest ZEISS MyoCare portfolio, ZEISS establishes a robust body of evidence for the efficacy of the ZEISS MyoCare portfolio in human trials involving large samples, different ethnicities, and multiple research locations.

At the annual meeting of the Association for Research in Vision and Ophthalmology (ARVO) 2024 ZEISS Vision Care presented these latest study results from ongoing multi-center trials in Asia and Europe. The posters presented at ARVO can be found [here](#) and include 12-month results for a multi-center trial in China, and 6-month results for a multi-center trial from Spain and Portugal.

Slower myopia progression observed in Asian and Caucasian children

The ZEISS MyoCare lenses significantly slowed myopia progression in both Asian and Caucasian children compared to ZEISS single vision lenses: In Asian children, after twelve months of wear, ZEISS MyoCare slowed myopia progression on average by 0.31 D and 0.13 mm (relative efficacy of 48% and 41%) and ZEISS MyoCare S lenses slowed myopia progression on average by 0.29 D and 0.11 mm (relative efficacy of 45% and 34%, respectively). (2) Additionally, both lenses reduced the risk of fast progression (≤ -0.75 D or more per year). (3) In Caucasian children, compared to ZEISS single vision lenses, use of ZEISS MyoCare lenses for six months resulted in a reduction of myopia progression by an average of 0.15 D and 0.07 mm (relative efficacy of 63% and 77%). (4)



In both groups, vision with ZEISS MyoCare lenses was rated to be either good or very good, and the daily wear time did not differ from regular single vision lenses. (5; 6)

Emmetropic progression ratio

Axial elongation when using ZEISS MyoCare and ZEISS MyoCare S lenses was compared to physiological axial elongation in emmetropic eyes and reported as emmetropic progression ratio (EPR). For Asian children, on average EPRs of 70%* for ZEISS MyoCare and 68% for ZEISS MyoCare S were seen after twelve months of wear. (7)

Overview clinical trials

The published results are derived from two distinct multi-center clinical trials, the first of which is conducted at three locations in China (Tianjin, Shenyang and Beijing) with 240 Chinese children aged six to 13 years, spherical equivalent refractive error (SE) of -0.75 D to -5.00 D, randomly assigned to ZEISS single vision lenses, ZEISS MyoCare, or ZEISS MyoCare S lenses (80 children per group). Results for the first twelve months of this on-going trial were reported at ARVO.

The second multi-center trial involves 304 Caucasian children, six to 13 years of age, SE of -0.75 D to -5.00 D and past annual progression of at least -0.50 D. This study is being conducted with ISEC Lisboa, Portugal, and Complutense University of Madrid, Spain, at six clinics. Children in the trial are randomly assigned to either ZEISS single vision lenses (N = 152) or ZEISS MyoCare lenses (N = 152). Results for the first six months of wear were reported at ARVO.

About ZEISS MyoCare lenses and related scientific efforts

ZEISS MyoCare lenses incorporate C.A.R.E.® technology (Cylindrical Annular Refractive Elements) for the management of progressive myopia. Around the center of the lens with far distance correction, the functional zone incorporates almost invisible concentric circles with alternating defocus and correction zones in a ring like pattern expanding towards the periphery of the lens. The myopic defocus which is achieved in this way has been shown to effectively delay the growth of the eye's length beyond that which is physiologically normal, thus slowing down the progression of myopia. ZEISS MyoCare S lenses have a slightly larger central clear zone and less mean additional surface power of the annular elements.

Myopia and the underlying mechanisms are not yet fully understood. In order to provide the community with strong myopia interventions based on research and evidence, the researchers and experts at ZEISS undertake extensive research and maintain close collaboration with the scientific community, facilitated by [the ZEISS Myopia Advisory Board](#). ZEISS is committed to delivering holistic solutions that meet the visual needs of children and adults with myopia.

C.A.R.E and MyoCare are registered trademarks of Carl Zeiss Vision GmbH.

Not all products, services or offers are approved or offered in every market and approved labelling and instructions may vary from one country to another. For country specific product information, see the appropriate ZEISS Vision Care country website. // ZEISS MyoCare and ZEISS MyoCare S are not available in the United States.



*Remark: The press release has been updated after publication on 21 May 2024. The *footnote regarding the emmetropic progression ratio has been added.*

References/Notes

- (1) Holden, Fricke, Wilson, Jong, Naidoo, Sankaridurg et al. *Ophthalmology*, 2016 123(5):1036-42.
- (2) The relative efficacy describes the reduction of progression compared to the control group wearing ZEISS single vision lenses. / Chen, X., et al. (2024, May 5-9). Slowing myopia progression with cylindrical annular refractive elements (CARE) – 12-month interim results from a 2-year prospective multi-center trial [Conference presentation abstract]. The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Seattle, WA, United States.
- (3) Sankaridurg, P., et al. (2024, May 5-9). Probability of surviving fast progression and eye growth reversal after 1-year of spectacle wear with cylindrical annular refractive elements [Conference presentation abstract]. The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Seattle, WA, United States.
- (4) Alvarez-Peregrina, C., et al. (2024, May 5-9). Efficacy of a next-generation design of ophthalmic lenses for myopia control: Six-month results of the CEME Study [Conference presentation abstract]. The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Seattle, WA, United States.
- (5) Alvarez-Peregrina C., et al. (2024, April 12-14). Vision, confort y tiempo de adaptacion a un nuevo diseno de lente oftalmica para el control de miopia [Conference presentation abstract]. OPTOM 2024, Madrid, Spain.
- (6) Rifai, K., et al. (2024, May 5-9). Subjective acceptance of spectacle lenses with cylindrical annular refractive elements (CARE) in Chinese children with myopia [Conference presentation abstract]. The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Seattle, WA, United States.
- (7) Emmetropic Progression Ratio (EPR) on a scale of 0 – 100%, where 0% equals axial elongation equivalent to a myopic eye and 100% equals axial elongation equivalent to an emmetropic eye. / Ohlendorf, A., et al. (2024, May 5-9). Myopia control efficacy through Emmetropic Progression Ratio: 1-year of spectacle wear with cylindrical annular refractive elements (CARE) [Conference presentation abstract]. The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Seattle, WA, United States.

* EPR for ages 7-12 yr old children as sample size for ages 6 and 13 was small. When the entire sample of 6 to 13 years were considered, EPR for ZEISS MyoCare was 71%.

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About ZEISS

ZEISS is an internationally leading technology enterprise operating in the fields of optics and optoelectronics. In the previous fiscal year, the ZEISS Group generated annual revenue totaling 10 billion euros in its four segments Semiconductor Manufacturing Technology, Industrial Quality & Research, Medical Technology and Consumer Markets (status: 30 September 2023).

For its customers, ZEISS develops, produces and distributes highly innovative solutions for industrial metrology and quality assurance, microscopy solutions for the life sciences and materials research, and medical technology solutions for diagnostics and treatment in ophthalmology and microsurgery. The name ZEISS is also synonymous with the world's leading lithography optics, which are used by the chip



industry to manufacture semiconductor components. There is global demand for trendsetting ZEISS brand products such as eyeglass lenses, camera lenses and binoculars.

With a portfolio aligned with future growth areas like digitalization, healthcare and Smart Production and a strong brand, ZEISS is shaping the future of technology and constantly advancing the world of optics and related fields with its solutions. The company's significant, sustainable investments in research and development lay the foundation for the success and continued expansion of ZEISS' technology and market leadership. ZEISS invests 15 percent of its revenue in research and development – this high level of expenditure has a long tradition at ZEISS and is also an investment in the future.

With over 43,000 employees, ZEISS is active globally in almost 50 countries with around 30 production sites, 60 sales and service companies and 27 research and development facilities (status: 30 September 2023). Founded in 1846 in Jena, the company is headquartered in Oberkochen, Germany. The Carl Zeiss Foundation, one of the largest foundations in Germany committed to the promotion of science, is the sole owner of the holding company, Carl Zeiss AG.

Further information at www.zeiss.com

ZEISS Vision Care

ZEISS Vision Care is one of the world's leading manufacturers of eyeglass lenses and ophthalmic instruments. The unit is allocated to the Consumer Markets segment and develops and produces offerings for the entire eyeglass value chain that are distributed globally under the ZEISS brand.