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## **CooperVision Research Advances Understanding of Contact Lens Comfort at ARVO 2022**

*Includes Novel Model for Assessing Behind-the-Lens Tear Film Osmolarity*

**SAN RAMON, CALIF., April 28, 2022**— CooperVision will reveal findings from multiple studies that advance scientific understanding of contact lens comfort factors during the 2022 Association for Research in Vision and Ophthalmology (ARVO) meeting. The annual event, which runs from May 1-4 in Denver, attracts thousands of the world's top ophthalmology, optometry, and vision science researchers.

Comfort remains the key factor in maintaining contact lens satisfaction among patients. While numerous product developments have significantly improved the wearing experience over the last few decades, comfort considerations and improvement continue to be of substantial interest to eye care professionals and consumers. CooperVision's ARVO presentations build on its reputation for leading extensive research about the subject.

Two of the works<sup>1,2</sup> focus on helping protect the ocular surface from hyperosmolarity of the tear film, which has particular relevance for contact lens wearers who are symptomatic, especially those with dryness. Conducted with the Herbert Wertheim School of Optometry & Vision Science at the University of California, Berkeley, the research team designed and employed a novel model to quantify a non-measurable yet critical factor: tear film osmolarity behind a contact lens.

"We concluded that contact lens materials with low salt diffusivity are better at protecting the cornea from hyperosmolarity and that osmolarity behind a contact lens reaches a steady state within the first hour. Our findings also illustrate that midday lens removal and reinsertion alone cannot prevent post-lens tear film hyperosmolarity," said Cheng-Chun Peng, a Senior Scientist at CooperVision who co-authored the ARVO-delivered paper and poster.

"If tear film break-up on the cornea is believed to cause discomfort, contact lenses could theoretically help protect the ocular surface from osmolarity spikes. While pre-lens tear film hyperosmolarity is primarily due to evaporation, little is known about salt accumulation within and behind a contact lens. A better understanding of this factor could lead to substantial gains in future lens innovations and patient care."

Additional CooperVision comfort science being presented at ARVO 2022 includes research regarding corneal sensitivity changes in symptomatic neophyte contact lens wearers,<sup>3</sup> an evaluation of discomfort-associated conjunctival epithelial cell gene expression,<sup>4</sup> and preliminary results from the Neurosensory Abnormalities in Ocular Surface Disease study.<sup>5</sup> Those projects were conducted in conjunction with Indiana University, Universidad de Valladolid, and Tufts Medical Center, respectively.

"Our commitment to comprehending the scientific fundamentals of contact lens comfort run deep, many of which relate to the eye's physiological responses to wear. By partnering with renowned research centers and experts across various fields—some of which is being made public during ARVO 2022—we draw closer each day to unlocking the secrets of even greater patient and practitioner satisfaction," said Nancy Keir, OD, PhD, Senior Director, Program and Biological Sciences for CooperVision.

CooperVision's additional ARVO 2022 research presentations, including advancements in myopia management and other contact lens topics, can be viewed at [arvo.org/annual-meeting/](https://arvo.org/annual-meeting/).

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### **About CooperVision**

CooperVision, a division of CooperCompanies (NYSE:COO), is one of the world's leading manufacturers of contact lenses. The company produces a full array of daily disposable, two-week and monthly soft contact lenses that feature advanced materials and optics, and premium rigid gas permeable lenses for orthokeratology and scleral designs. CooperVision has a strong heritage of addressing the toughest vision challenges such as astigmatism, presbyopia, childhood myopia, and highly irregular corneas; and offers the most complete portfolio of spherical, toric and multifocal products available. Through a combination of innovative products and focused practitioner support, the company brings a refreshing perspective to the marketplace, creating real advantages for customers and wearers. For more information, visit [www.coopervision.com](https://www.coopervision.com).

### **About CooperCompanies**

CooperCompanies ("Cooper") is a global medical device company publicly traded on the NYSE (NYSE:COO). Cooper operates through two business units, CooperVision and CooperSurgical. CooperVision brings a refreshing perspective on vision care with a commitment to developing a wide range of high-quality products for contact lens wearers and providing focused practitioner support. CooperSurgical is committed to advancing the health of women, babies and families with its diversified portfolio of products and services focusing on medical devices and fertility & genomics. Headquartered in San Ramon, Calif., Cooper has a workforce of more than 12,000 with products sold in over 100 countries. For more information, please visit [www.coopercos.com](https://www.coopercos.com).

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<sup>1</sup> Kim Y, et al. Protection Against Localized Corneal Hyperosmolarity Spikes with SCL Wear. ARVO 2022 paper presentation.

<sup>2</sup> Radke C, et al. Dynamic Salt Accumulation in PLTF with SCL Wear: Implications for Protection Against Corneal Hyperosmolarity. ARVO 2022 poster presentation.

<sup>3</sup> Situ P, et al. Changes of Corneal Sensitivity in Symptomatic Neophyte Contact Lens Wearers. ARVO 2022 poster presentation.

<sup>4</sup> Calderón-García A, et al. Evaluation of Gene Expression in Conjunctival Epithelial Cells Associated to Contact Lens Wear and Discomfort. ARVO 2022 poster presentation.

<sup>5</sup> Hom M et al. Comparison of Ocular Surface Disease Patients within Two Different Clinical Settings: Preliminary Results from Neurosensory Abnormalities in Ocular Surface Disease (NASA) Study. ARVO 2022 poster presentation.