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J&J Vision presents finding on Myopia disease progression in children

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First Myopia Clinical Research Findings from Ground-Breaking Collaboration with SERI and SNEC and New Equipment Data at ARVO Annual Meeting 2020



Johnson & Johnson Vision*, a global leader in eye health and part of the Johnson & Johnson Medical Devices Companies**, presented the first clinical research findings from its comprehensive Myopia clinical research program with the Singapore Eye Research Institute (SERI) and Singapore National Eye Centre (SNEC), as well as surgical innovations at the Association for Research in Vision and Ophthalmology Annual Meeting (ARVO 2020), which was held as a virtual congress with Johnson & Johnson Vision author video presentations published on June 15. Access to Johnson & Johnson Vision accepted studies and author videos can be gained through ARVOLearn.

“Johnson & Johnson Vision is focused on delivering innovation that meets major unmet needs,” said Xiao-Yu Song, MD, PhD, Global Head of Research and Development, Johnson & Johnson Vision Care, Inc. “We are excited to present our first research at ARVO 2020 from our unique publicprivate Myopia strategic partnership that is working to address this growing epidemic. We will also share the latest findings on many investigational technologies, including our laser cataract surgery operating system.”

BUILDING A BETTER UNDERSTANDING OF MYOPIA

By 2050, half of the world’s population is expected to be myopic, with a disproportionate impact on our children. Johnson & Johnson Vision is addressing this public health crisis by building a better understanding of the science and biology behind myopia and developing comprehensive programs to address and treat the disease.

At ARVO 2020, Johnson & Johnson Vision, together with SERI and SNEC, presented the first five studies from the group’s unique public-private strategic partnership. Since the start of the collaboration in April 2019, the group initiated nine research projects that include four clinical cohorts with 631 participants. The research projects are providing real-world evidence to better understand why Myopia develops, how it progresses, and how it might be intercepted by investigating underlying mechanisms. Key data presented includes:

- *Annual Myopia Progression and Subsequent Year Progression in Singaporean Children*: Brennan, N et al. This study explored predictors of myopia progression, including whether prior year progression correlates with the year that follows. In the latest findings from the Singapore Cohort Study of the Risk Factors for Myopia, study authors find that prior year annual Myopia progression correlates more closely with immediate subsequent year Myopia progression. However, it cannot as a single factor fully predict long-term Myopia progression. The authors recommend that patients should receive annual check-ups. Factors including the age of Myopia onset and parental Myopia should be considered in determining treatment. Link to study.

- *A Microperimetric Evaluation of Macular Function in Highly Myopic Eyes with Myopic Macular Degeneration*: Wong, Qiu Ying et al. Today, it is challenging to get accurate measures of the onset and progression of vision impairment associated with Myopia-related pathologies, such as macular degeneration. In this study, investigators explored using microperimetry to measure macular sensitivity and correlate it with axial length; best corrected visual acuity; and the severity of myopic macular degeneration (MMD). They found that macular function as measured by microperimetry may be a more sensitive marker of visual function than visual acuity in eyes with MMD. Link to study.

ASTIGMATISM MANAGEMENT SOLUTIONS

Astigmatism reduces distance and near visual acuity, vision quality, and depth perception. Yet astigmatism is corrected in less than half of patients at the time of cataract surgery, due to limitations in currently available astigmatism treatment modality and toric IOL technology. Even subtle shifts of the target IOL placement can impact a patient's outcome, so surgeons need astigmatism solutions that help ensure accurate astigmatism assessment and IOL placement. Link to study.

- *Automatic cyclorotation measurement with a femtosecond cataract laser*: Dewey, David et.al. In this study of CATALYS cOS 6.0 with advanced astigmatism management, a new software for the CATALYS Precision Laser System, pre-op image pairs were collected from a CASSINI topographer, and CATALYS Precision Laser for patients who underwent cataract surgery at two clinical sites. The image pairs were graded for cyclorotation between the preop and docked conditions by 3 different graders aided by an image-based computer grading tool. Data showed CATALYS automatic cyclorotation measurement and image guided iris registration can be registered to pre-op CASSINI images in 94% of eyes with an accuracy of better than 2 degrees. Link to study.

Key Johnson & Johnson Vision Scientific Abstracts At ARVO Annual Meeting 2020:

Myopia: SERI – J&J Vision Joint Research

Annual Myopia Progression and Subsequent Year Progression in Singaporean Children: Brennan, et al.

A Microperimetric Evaluation of Macular Function in Highly Myopic Eyes with Myopic Macular Degeneration: Wong, Qiu Ying, Singapore Eye Research Institute.

Axial length/corneal radius of curvature ratio (AL/CR) in children on atropine eye drops. Chia, Audrey.

Influence of Greater Axial Length on Prevalence of Myopic Maculopathy in Cohort of Highly Myopic Eyes: Yu, Daryle Jason G, Singapore Eye Research Institute.

Comparison of Refractive Changes in Myopia Progression in Guinea Pig Myopic Models: Jiang, Liqin, Singapore Eye Research Institute; Kathrani, Biten, et al.

Evaluating On-Eye Wavefront Aberrations of a Soft Contact Lens with an Optical Design Simulating Orthokeratology. Cheng, Xu.

Cataract & Refractive

Automatic cyclorotation measurement with a femtosecond cataract laser: Dewey, David.

Methods and Design to Reduce Cyclotorsion and Decentration Error for Corneal Lenticule Extraction Surgery with a Next-Generation Femtosecond Laser System: Voorhees, Andrew.

Comparison of flap and iLex induced light scattering at retina between new and on market femtosecond lasers: Bing, Li.

Evaluating the accuracy of refractive lenticule created by a new femtosecond laser in glass: Chen, Li.