New Optical Innovation for Retarding Myopic Progression in Children – the Defocus Incorporated Soft Contact Lens

Professor Chi-ho TO, Dr. Wing-chun TANG, Professor Carly S.Y. LAM
School of Optometry

As an Optical Aid to Provide Clear Vision & Retard Myopia Progression in Children.
Treatment of other Refractive Errors such as Hyperopia.

Myopia (short-sightedness) is a very common eye problem and the prevalence is especially high in Asian countries. Myopic eyes are prone to a number of ocular pathologies, such as retinal degeneration and glaucoma, which can lead to severe visual impairment. The research team of our school (School of Optometry) has invented a novel contact lens, ‘DISC lens’, for slowing progression of myopia in children. The DISC lens is a bifocal soft contact lens with concentric rings design and comprises of a series of alternating optical zones of correcting myopia and incorporating myopic defocus (“STOP” signal to myopia). The lens can provide clear vision and constant myopic defocus simultaneously at all viewing distances. Our recent clinical trial has shown the DISC lens slowed down myopia progression by about 50% in Hong Kong schoolchildren aged from 8 to 13 years. This invention utilizes a natural homeostatic mechanism of the eye, known as “emmetropization”, by which the size of the eyes is regulated by optical inputs from the environment. It is less invasive than those by pharmacological treatments, and has great potential for slowing myopia progression in children. The optimum amount of myopic defocus to arrive at stopping myopia progression is yet to be worked out.

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