



Technology Licensing Opportunity

A Novel Multi-focal Contact Lens to Slow Myopia Progression

Applications

Myopic defocus; Peripheral hyperopia; Multiple zone contact lens; Myopia progression

Patents

Patent pending

Opportunity

Exclusive/ non-exclusive licensing
Partnership in commercial development

Contact

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Advantages

- Plurality of alternating optic zones that correct for myopic refractive error taking into account more hyperopic peripheries
- Concentric treatment zones with lesser myopic power that induces simultaneous myopic defocus
- Daily disposable

Technology Overview

Recent studies in animal have shown single-vision contact lenses (CLs) or spectacles without the correction of relative hyperopia in the periphery may induce peripheral hyperopic defocus and accelerate eye growth in humans. Optical wearing devices that correct the peripheral hyperopic defocus or induce

peripheral myopia may slow the progression of myopia by altering the image shell curvature.

It has been reported that myopia correction with conventional spectacles might itself induce peripheral hyperopic defocus in children. With conventional spectacle correction, in 8 to 15 year old moderately myopic children, the peripheral hyperopia was found to be greater at 40° in both nasal ($p = 0.038$) and temporal ($p = 0.007$) fields and at 30° in the temporal field ($p = 0.03$) when compared to that of low myopic children.

In further, the use of spectacle lenses in the correction of peripheral refractive errors may be limited by inevitable ocular movement that is associated with changing gaze fixation, as this would alter the correspondence between the spectacles lens and the eye position. However, spectacle lenses may be limited by the changing fixation gaze of the child throughout the day. CLs, on the other hand, are fixed and centered around the pupil and thus the child's central vision will correspond appropriately with the central clear zone of the CL.

Technology Features

The optical lens is in the form of a contact lens which comprises a plurality of alternating optic zones (CZ, DZ).

The alternating optic zones include a plurality of annular vision correction zones (CZ) having -first refractive powers for correcting myopia that are

more hyperopic at the lens' periphery, and a plurality of annular myopic defocus zones (DZ) having a second refractive power for creating a defocused retina image. The second plurality of annular vision defocus zones are arranged to alternate with respective ones of the -first plurality of annular vision correction zones. With such a con-figuration the contact lens is useful for slowing myopia progression.

Data is available for demonstration to interested parties.

About the Inventors

Professor Saw Seang Mei is a member of faculty at the National University of Singapore (NUS) Saw Swee Hock School of Public Health. She has also held administrative positions in the NUS Yong Loo Lin School of Medicine (NUS Medicine), as Vice-Dean (Research) and Assistant Dean (Graduate Studies). Prof Saw obtained her Bachelor of Medicine, Bachelor of Surgery (MBBS) degree from the NUS and subsequently her doctorate in Epidemiology from the John Hopkins Bloomberg School of Public Health

Reference

Chinese patent publication number CN104094164A “用于减缓近视加深的光学镜片”

Development Status

The prototype has been fabricated. We are looking to partner with CL manufacture companies for animal trial and preclinical trials.

