**Measurement of peripheral retinal thickness using optical coherence tomography among Hong Kong Chinese myopes**

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**Purpose:** To measure peripheral retinal thickness using optical coherence tomography (OCT) and study the relationship with macular thickness, refractive error and axial length.

**Methods:** In our pilot study, twenty myopic subjects with normal visual acuity and ocular health underwent examination of one randomly selected eye. Refractive status was determined by autorefraction with open-field autorefractor with pupil dilation. Axial lengths were measured by IOL Master. Retinal thickness measurements were performed using Stratus OCT (model 3000, software ver.4.0; Carl Zeiss Meditec, Dublin, CA), the subjects seated in a chin rest and the machine aligned to the eye being tested, while contra lateral eye were occluded. The OCT lens was adjusted for the subjects' refractive error. The subjects were instructed to fixate an external target for peripheral retina scan, in order to position the desired retinal location (i.e. nasal and temporal peripheral retina approximately 45 degree (~13.5 mm) from fovea) within view of the examiner real-time. Measurements were repeated by a single operator.

**Results:** The mean spherical equivalent error of the eyes was -4.11 ± 2.15 D. The mean axial length was 25.50 ± 0.79 mm. The measurement on peripheral retina was found repeatable using analysis suggested by Bland and Altman (1986). Ninety-five per cent of the values (19 of 20) fell within 1.96 standard deviations of the mean. The averaged nasal and temporal retinal thickness was 149 ± 15 m and 127 ± 14 m respectively. Nasal retina was thicker than temporal retina (paired t-test, p < 0.000). The preliminary results showed peripheral retinal thickness did not vary with myopia, axial length and averaged macular thickness.

**Conclusion:** The measurement of approximately 45-degree nasal and temporal peripheral retina is repeatable. Further investigation should be performed on the association between the peripheral retinal thickness and axial length.