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## Exploring Choroidal Thickness: Measurement Challenges and Clinical Insights

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The global rise in myopia has increased interest in understanding the mechanisms and factors influencing its onset and progression.

Ocular growth, closely linked to refractive status, is regulated by complex genetic and environmental factors. Retinal neural mechanisms detect defocus and generate signals that modulate axial elongation to reduce optical error. The choroid appears to play a central role in this initial compensatory response. Prolonged near work may induce hyperopic defocus and transient choroidal thinning, which over time could lead to irreversible scleral remodelling and myopia development.

Recent evidence suggests that choroidal thickness may serve as a sensitive indicator of myopic degenerative changes, potentially offering greater clinical insight than axial length alone.

This study aims to identify a reliable and repeatable method for measuring choroidal thickness from optical coherence tomography (OCT) images and to assess its transient response to various visual stimuli. A literature review on choroidal thickness and its clinical implications will be presented, together with preliminary data collected within the MUSA project (Multilayered Urban Sustainability Action of the University of Milano-Bicocca). In this ongoing study, OCT images were acquired to quantify choroidal thickness and correlate it with other optometric variables.

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