Macular pigment measurement in clinics: controlling the effect of the ageing media

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Abstract
We report a series of experiments designed to ensure that Macular Pigment Optical Density (MPOD) measurements obtained with a clinical instrument are not influenced by lens yellowing and ocular media optical density. These effects were determined in six subjects using seven Lee Colour Temperature Correcting filters to simulate changes in the transmittance of the ocular media with age. Calculated simulated age matched the data linking age and optical density reported in the literature, and the MPOD was independent of simulated age. The instrument allows an estimation of MPOD to be made which is based only on a foveal (centre-only) measurement rather than, as is conventional, making a comparison between foveal and peripheral measurements. We assessed the performance of this facility by comparing the centre-only estimate of MPOD with that obtained from both central and peripheral measurements in 5616 eyes. The 95% limits of agreement for the two estimates was 0.13 OD units.

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