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“Is bigger better? Glistenings, forward light scatter and visual performance”

Glistenings, fluid-filled microvacuoles within an intraocular lens, are a source of light scatter from particles much larger than the wavelength of light. They were first described over 30 years ago but have become much more common following the development of hydrophobic acrylic foldable intraocular lenses in the 1990s. Hydrophobic acrylic lenses have been shown to develop significantly numbers of glistenings. Although it has been shown that straylight is increased for high levels of glistenings, there is no clear evidence of an effect on common measures of visual performance such as visual acuity and contrast sensitivity. One explanation could be the relatively simple ways a number of studies have quantified glistenings. Another could be the sensitivity and relevance of the visual function tests used. In this paper the results from a semi-automatic system to quantify glistenings for in vitro studies will be discussed as well as initial results from a clinical trial looking at the association between glistenings and measures of visual function. Results will be presented within the context of recently published literature, which has done much to improve our understanding of large particle light scatter in the eye.