Author Response: Profiles of Macular Pigment Optical Density and Their Changes following Supplemental Lutein and Zeaxanthin

We thank Nolan and Beatty1 for the appreciation of our recent paper.2 They raise an interesting issue by pointing out that they do not share our interpretation of the data reported in the study by Dietzel et al.3 with regard to the impact of macular pigment on age-related macular degeneration (AMD). We concur with their statement that casual relationships are difficult to infer from cross-sectional studies and that they principally deserve a note of caution. Moreover, the effects of over-the-counter supplements available in Germany may have confounded the results of Dietzel et al.,3 despite all efforts of control and statistical adjustment. In fact, Nolan and Beatty also indicate the direction from which new insight and better understanding will accrue: it will be necessary to study people free of AMD (or possibly at the very early stages) and then follow them longitudinally to find out how macular pigment optical density (MPOD) levels and distribution interact with the occurrence of AMD. The studies by Nolan et al.4 and Kirby et al.5 show one way of doing this, using surrogate measures of AMD. We suppose that future work in cohort studies, like the Muenster Aging and Retina Study (MARS),3 should be able to further elucidate these associations and distinguish causality from coincidence or reverse causality.

Meike Zeimer1
Martha Dietzel1

Hans-Werner Hense2
Daniel Pauleikhoff1

1Institute of Ophthalmology, St. Franziskus Hospital, Münster, Germany; and 2Institute of Epidemiology and Social Medicine, University of Münster, Münster, Germany
E-mail: meiketri@aol.com.

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