

# Lutein and Zeaxanthin Status and Risk of Age-Related Macular Degeneration

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**PURPOSE.** To investigate the relation between plasma concentrations of lutein and zeaxanthin and age-related macular degeneration in a group of elderly men and women.

**METHODS.** The Wisconsin Age-Related Maculopathy Grading System was used to grade features of early and late macular degeneration in 380 men and women, aged 66 to 75 years, from Sheffield, United Kingdom. Fasting blood samples were taken to assess plasma concentrations of lutein and zeaxanthin.

**RESULTS.** Risk of age-related macular degeneration (early or late) was significantly higher in people with lower plasma concentrations of zeaxanthin. Compared with those whose plasma concentrations of zeaxanthin were in the highest third of the distribution, people whose plasma concentration was in the lowest third had an odds ratio for risk of age-related macular degeneration of 2.0 (95% confidence interval [CI] 1.0–4.1), after adjustment for age and other risk factors. Risk of age-related macular degeneration was increased in people with the lowest plasma concentrations of lutein plus zeaxanthin (odds ratio [OR] 1.9, 95% CI 0.9–3.5) and in those with the lowest concentrations of lutein (OR 1.7, 95% CI 0.9–3.3), but neither of these relations was statistically significant.

**CONCLUSIONS.** These findings provide support for the view that zeaxanthin may protect against age-related macular degeneration.

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