

## La relazione tra i carotenoidi maculari, luteina e zeaxantina e la visione temporale

Lutein (L) and zeaxanthin (Z) are the dominant carotenoids within the central retina (there, termed macular pigment, MP) and brain (approximately 70% of total carotenoid concentration). Past studies have shown that MP is related to many static indicators of visual performance, such as visibility and disability glare. It has also been shown that MP is related to a dynamic measure of visual performance, the critical flicker fusion threshold (CFF). In this study, we examine whether MP is related to CFF in a larger sample. We also test the relation between MP and the more complete temporal contrast sensitivity function (TCSF). A total of 70 participants were assessed for a comparison of MP and the full temporal function. A separate pool of 354 participants was assessed for a MP and CFF comparison. Peak MP density was measured psychophysically (via heterochromatic flicker photometry) using a 1-degree diameter test. CFF was measured using a 1-degree 570 nm test varied at 100% modulation. The full TCSF was measured centrally using a 1-degree, 660 nm test (the modulation depth of which could be adjusted directly by the subject) centered within a 5.5-degree, 660 nm surround. A small fixation point was used to test a 7-degree parafoveal site. MP density was positively related to temporal function as assessed by the full TCSF in the center ( $n = 70, r = -0.29, p < 0.01$ ) but not at the parafoveal location ( $p < 0.07$ ). MP was also positively related to critical flicker fusion thresholds ( $n = 354, r = 0.21, p < 0.0001$ ).

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