

Supplementing with lutein and zeaxanthin—compounds contained naturally in green, leafy vegetables—may improve measures of visual performance such as photostress recovery and the response to glare conditions.

Lutein and zeaxanthin supplementation improves measures of visual performance in healthy adults

Dietary carotenoids lutein and zeaxanthin are plant-derived pigments that concentrate in the inner layers of the macula region of the eye. The macular pigments act much like a sunscreen within the eye to protect the delicate tissues of the retina. It is well known that sufficient levels of these carotenoids reduce the risk of macular degeneration, a major cause of blindness in the elderly. Less is known of the benefits of supplementation of lutein and zeaxanthin in young, healthy adults.

A new double-blind placebo controlled study published in *Investigative Ophthalmology & Visual Science* assessed the link between higher macular pigment optical density (MPOD) resulting from supplementation to improvements in glare disability, photostress recovery, and other measures of visual performance.

The study included 115 young, healthy adults who either received a supplement containing a daily dosage of 10 mg of lutein and 2 mg zeaxanthin or a placebo over a one year supplementation period. Several measurements were collected at baseline and every 3 months: serum lutein and zeaxanthin, MPOD, photostress recovery, chromatic contrast and glare disability. MPOD is a measure of the amount of macular pigment present in the macula. Photostress recovery is a measure of how fast the eye recovers sight after being exposed to a flash of bright light. Chromatic contrast is the ability to discriminate an object from its colored surroundings. Glare disability is a measure of the amount of glaring light that can be tolerated before vision is significantly impaired.

MPOD and serum lutein and zeaxanthin levels increased significantly in the treatment groups versus placebo. In the supplemented group, chromatic contrast and photostress recovery times improved significantly versus placebo during the study period. The researchers also found that improvement in glare disability was highly correlated to increased macular pigment density.

The results of the current study demonstrate that lutein and zeaxanthin supplementation improves several measures of visual function in normal healthy individuals and adds to evidence from previous studies that increased MPOD results in improved visual performance.

Hammond BR et al. *Invest Ophthalmol Vis Sci*. 2014 Dec 2;55(12):8583-9.