

Eye strain from reading on screens all day? Natural help is here: study

The macular carotenoids lutein and zeaxanthin may protect eyes from prolonged use of digital screens, according to a new study.

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The sweet spot for supplements is to support against lifestyle concerns that pharmaceuticals can't touch—things like stress, sleep, energy and overall vitality.

But perhaps the biggest opportunity of all is a concern that affects pretty much every single person in the modern world—our codependency with our digital screens of computers, phones and tablets. Everyone, it seems, experiences eye strain and fatigue from staring at screens for so many hours a day. Age-related macular degeneration was the leading cause of blindness in those over age 65, and today it's now the leading cause of blindness in those over age 60. Could our screen addiction have something to do with that?

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Lutein and zeaxanthin isomers—known as the macular carotenoids—are natural filters of high-energy blue light. High-energy blue light reaches deep into the eye and can harm the macula—the region of the eye responsible for the highest visual acuity—by promoting the production of free radicals. Short-term effects can cause eye fatigue while long-term exposure can lead to progressive loss of visual function.

The B.L.U.E. study (an acronym for Blue Light User Exposure) was the subject of a recent paper, “Effects of macular carotenoid supplementation on visual performance, sleep quality, and adverse physical symptoms in those with high screen time exposure,” [published in *Foods* 2017](#). This is the first study to examine the effect of macular carotenoids supplementation to protect visual health and performance, reduce eye strain and fatigue, even improve sleep quality, during prolonged exposure to blue light emitting from digital screens.

"The effects of blue light on vision isn't new. However, 10 years ago we saw a surge in near field technology holding or using devices within arm's length, resulting in increased complaints around high screen use—neck pain, eye strain and fatigue, headaches," said Dr. James Stringham, the lead author of the paper. “This has led to an opportunity with supplementation—a simple mode of therapy with specific nutrients that have a wealth of benefits as they deposit in the eye. After six months of supplementation, we saw significant reduction around 30 percent in these symptoms and significant improvement in measures of visual performance and protection.”

The B.L.U.E. study was a six-month, randomized, double-blind, placebo-controlled supplementation trial with 48 healthy, young adults with screen time exposure of at least six hours daily. Subjects were evaluated at baseline, three months and six months for MPOD (macular pigment optical density) and markers of visual performance including contrast sensitivity, photostress recovery and disability glare. Sleep quality, which is affected by blue light exposure, and physical indicators of excessive screen use were also measured. The results show that supplementing with Lutemax 2020 significantly improved macular pigment

optical density, visual performance and indicators of excessive screen use, including eye strain and fatigue and headache frequency. Sleep quality also improved significantly.

“At home, work and school your eyes are focused on digital devices for long periods of time. In many cases we spend more time staring into digital screens than sleeping,” said Abhijit Bhattacharya, president, OmniActive Health Technologies Ltd. “Even children, whose eyes are more susceptible to the harmful effects of blue light, spend almost half their day staring into screens. This study is groundbreaking—the first of its kind. And builds on an impressive body of evidence on Lutemax 2020 and its impact on vision and brain health. The BLUE study has huge implications because it addresses the growing concern of prolonged screen time that is happening across all age groups and offers a simple solution to protect the eyes in this digital age.”

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