

Quality Vision

Improving Vision Quality in Healthy Eyes



Quality Vision

- Did you know that supplementing with Zeaxanthin and Lutein can improve the Quality of Vision in Healthy Eyes?
 - Reduction of Disability and Discomfort Glare
 - Reduction of Photophobia
 - Improved Contrast Sensitivity
 - Improved Dusk to Night Vision
 - Improved Dark Adaptation
 - Improved Visual Acuity

Quality Vision

Increasing Macular Pigment Provides Improved Contrast

- Stringham, et al 2009 indicated that retinal increase of zeaxanthin and lutein, not only improved glare disability and discomfort, photostress recovery times, but it also enhanced contrast.
- Richer, et al 2004 demonstrated a 13% increase in contrast sensitivity resulting from lutein supplementation.
- Bovier/Wenzel in a small, unpublished study demonstrated a remarkable 75% increase in contrast resulting from supplementing with a 2:1 ratio of zeaxanthin (16mg) and lutein (8mg)

NORMAL CONTRAST

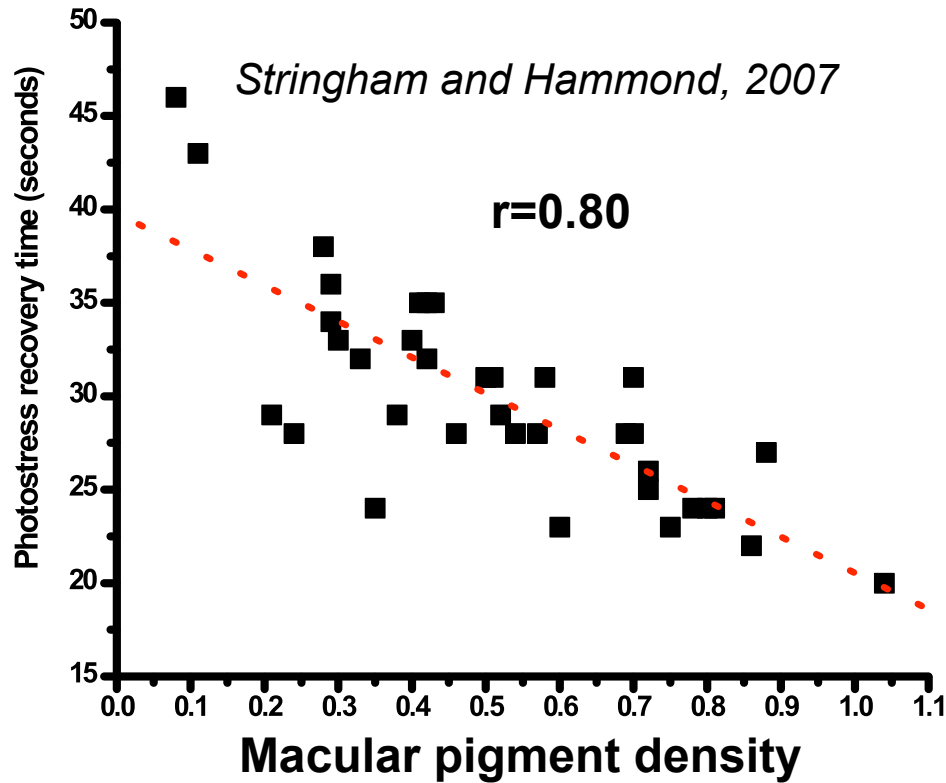
**GRADUAL LOSS OF
CONTRAST SENSITIVITY
MAY NOT BE NOTICED
IMMEDIATELY.**



**BUT....IT CAN HAVE
DEVASTATING RESULTS, AS
SEEN IN THE PHOTOS
SIMULATING CONTRAST LOSS**



PROGRESSIVE LOSS OF CONTRAST SENSITIVITY



Photostress recovery time is directly related to the amount of macular pigment (**zeaxanthin and lutein**) Subjects with very high MP density recover about twice as fast as subjects with very low MP density.

Glare can make driving at night, not only difficult, but can temporarily “blind” a driver leading to a dangerous situation.

Under these circumstances, driving in rain only compounds the driver’s issues.



No Glare



Simulated Glare

Imagine driving at 60 mph with your eyes closed for five (5) seconds. You would travel 440 feet during that five (5) second period.



Now, imagine being “blinded” by an oncoming car with bright lights. One study (*Stringham and Hammond 2007*) demonstrated they could reduce the recovery time from glare (photostress recovery) as much as five (5) seconds by increasing macular pigment (zeaxanthin and lutein) via supplementation.

Thus, night driving vision can be improved by increasing the intake of zeaxanthin and lutein.

Are you a pilot?

Imagine landing a plane at night. Out of the darkness, lightning strikes!
The lightning flash could leave you with temporarily compromised vision.



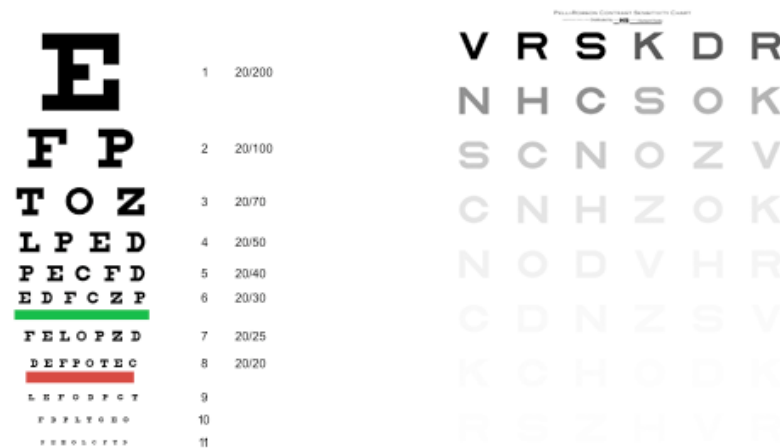
Recovery from photostress in the shortest period of time is vitally important.

Other Benefits of Supplementing with Zeaxanthin and Lutein



- Photophobia is significantly mitigated by macular pigment in the short wavelengths (*Stringham 2003*).
- Macular pigment plays a role in photophobia thresholds. There was a significant linear relationship between photophobia. Individuals with higher MPOD required more short wavelength light, relative to longer wavelength light, to reach their threshold for photophobia in the fovea (*Wenzel 2006*).

Other Benefits of Supplementing with Zeaxanthin and Lutein



- In one trial, from baseline, there was a Snelling equivalent acuity improvement of up to 5.4 letters with lutein and 3.5 letter with lutein plus antioxidants (*Richer 2004*).
- The results suggest that supplementation with Lutein or Zeaxanthin increases MPOD at the fovea and at 2.5 degrees , and that supplementation can improve Contrast Acuity Thresholds at high mesopic levels and hence visual performance at low illumination (*Kvansakul J 2006*).