

Fact or Fiction: Is Eating Carrots Good for Your Eyes?

Eye to Eye

Clinical Notes for Healthcare Providers - Vol 1.6

Laura Capelle, O.D.

Associated Eye Care

This question dates back to World War II, when carrots became associated with improved night vision. A British fighter pilot named John "Cats' Eyes" Cunningham claimed his expert night flying was due to the carrots he was eating. This inspired many British people to start growing and eating more carrots so they could see during mandatory blackouts. As it turned out the Royal Air Force was utilizing radar to locate German bombers, not strengthened night vision¹. However, there was some truth to the British propaganda; carrots do contain vitamin A from beta-carotene, which is an essential nutrient for your vision. They also contain lutein, an important carotenoid needed for ocular health.

One of the most influential studies on nutritional supplements for eye health was split into two parts and called the Age-Related Eye Study (AREDS 1 and 2). Both of these studies evaluated how various vitamins and antioxidants effected the development of Age-Related Macular Degeneration (AMD) and cataracts. The AREDS 1 study showed that an increased intake of vitamin C, vitamin E, and zinc benefited patients with advanced AMD. Patients with advanced AMD decreased their risk of disease progression by 25% and reduced their risk of vision loss by 19%.

The AREDS 2 study took a closer look at the effects of carotenoids (lutein and zeaxanthin) and omega-3 fatty acids on patients with AMD. Adding these supplements did not show an additional reduction in developing advanced AMD. However, patients with low dietary levels of lutein and zeaxanthin did lower their risk of advanced AMD by adding the supplement. Although neither of these studies found a significant effect of supplements on the development of cataracts, other research has demonstrated that increased levels of protein, vitamin A, and other nutrients (niacin, thiamin, and riboflavin) were protective against age-related nuclear cataracts².



Laura Capelle, O.D.
Comprehensive Optometry
Associated Eye Care, 2950 Curve Crest Blvd West
Stillwater, MN 55082 (651) 275-3000
lcapelle@associatedeyecare.com

How can you, as the primary physician, help?

Consider recommending an ocular supplement for patients that have high-risk AMD or patients with low dietary levels of lutein and zeaxanthin. Based on the AREDS 1 and 2 studies, it may not be beneficial for all patients. If a supplement is recommended, encourage patients to look for the "AREDS formula" on the bottle and compare the amount of each vitamin to the AREDS formula below. But beware; many of the top-selling supplements do not actually contain the correct doses prescribed in the AREDS formula. The PreserVision supplement from Bausch & Lomb has been shown to contain the correct levels of each vitamin³.

The AREDS 2 formula includes:

- 500mg vitamin C
- 400 IU vitamin E
- 10mg Lutein
- 2mg zeaxanthin
- 80mg zinc
- 2mg copper

In addition to taking an ocular supplement, you can help boost your levels of important vitamins by eating these nutrient-rich foods:

- Vitamin C: kale, strawberries, oranges, bell peppers, broccoli, cantelope
- Vitamin E: almonds, hazelnuts, sunflower seeds
- Lutein and Zeaxanthin: spinach, kale, collard greens, turnip greens
- Zinc: oysters, turkey, crab
- Omega-3 fatty acids: cold water fish (mackerel, herring), walnuts, flaxseed, olive oil

References

1. Kruszelnicki KS. Carrots & Night Vision. ABC News. <http://www.abc.net.au/science/articles/2005/10/26/1392430.htm>. Published October 25, 2005. Accessed August 31, 2018.
2. Smith W. Dietary antioxidants and age-related maculopathy The blue mountains eye study. *Ophthalmology*. 1999;106(4):761-767. doi:10.1016/s0161-6420(99)90164-1.
3. Yong JJ, Scott IU, Greenberg PB. Ocular Nutritional Supplements. *Ophthalmology*. 2015;122(3):595-599. doi:10.1016/j.ophtha.2014.09.039. <https://www.aao.org/Assets/d516d827-4aeb-42e5-9ab0-31d462abdf30/635579806229800000/table-1-ocularnutritionalsupplements-inpress-pdf?inline=1>