

Supplement Sampler

Lutein

Best Indications

Age-Related Macular Degeneration (ARMD), possibly cataracts

Mechanism of Action

Lutein and zeaxanthin are the two main carotenoid pigments in the eye. Both are thought to filter blue light and to protect the eye tissues from damage. Like many carotenoids, levels in the body are thought to be linked to a decreased risk of cancer – especially breast cancer – in epidemiologic studies. Levels are lowered with smoking, drinking more than two alcoholic beverages per week, and a sedentary lifestyle.

Lutein is found in foods, including broccoli, spinach, and kale. Eggs and marigolds also have it. Marigold extract is often used in supplements.

Best Studies

The Lutein Antioxidant Supplementation Trial (LAST) was a 12 month prospective double-blinded RCT that involved 90 patients with atrophic ARMD. One group received 10 mg of lutein daily. A second group took lutein and a mix of antioxidants, vitamins, and minerals. The third group received placebo. Research indicated that macular pigment optical density increased significantly in groups one and two, as did Amsler grid testing and visual acuity. [Optometry, 2004;75\(4\)216-30.](#)

Epidemiologic studies focusing on diet show a link between lutein consumption and a lower risk for cataracts.

Dose

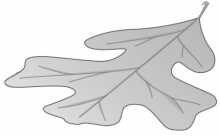
To reduce cataracts and ARMD, 6 mg a day, either via diet or supplementation, has been suggested. In studies related to lutein in the diet, people consuming 6.9-11.7 mg daily had the lowest risk of developing these eye problems. *Note: a number of popular vitamin brands, which advertise that they supplement lutein, only have around 0.25 mg per tablet.*

Side Effects

None reported. Availability might be reduced if beta-carotene is taken at the same time. Thought to be safe in pregnancy and lactation in amounts found in foods.

Cost

Most popular brands come in 20 mg doses. The cost for 60 capsules ranges from roughly \$8.00-15.00.



Lutein

Comments

As often is the case, eating your vegetables can be the most effective way to get appropriate amounts of a particular supplement. A serving of green vegetables (200 gm of broccoli or 150 gm of spinach) provides about 9 mg of lutein.

Clinical Bottom Line

Lutein supplementation is worth mentioning to patients, but make sure that dosing/diet requirements are clear. Studies of supplements are less convincing than the epidemiological studies which evaluate lutein levels in the diet.

The Aging-Related Eye Disease Study (AREDS) indicated there was a benefit to patients at high risk for ARMD if they took beta-carotene, vitamin C, vitamin E, zinc, and copper. The progression to advanced disease in patients with a diagnosis of ARMD slowed 25% in a 6-year period. (See <http://www.nei.nih.gov/amd/summary.asp>.) It is not clear that these supplements have any benefits for prevention in other groups. Currently, the AREDS-2 is underway. It will evaluate the benefits of lutein and omega-3 fatty acids.

Brought to you by Adam Rindfleisch, MD, and your colleagues in the UW Department of Family Medicine, Integrative Medicine Program.

Date created: October 2008