

Vitamins & Supplements for Age-related macular degeneration

Some patients with age-related macular degeneration (AMD) will benefit from the use of a vitamin supplement available without prescription and taken by mouth. This supplement reduces the chance of future vision loss for some patients. This supplement does not help all patients with AMD, and it is important to understand who benefits from its use.



What research supports the use of vitamins in AMD?

The **Age-Related Eye Disease Study (AREDS)** was a six-year clinical trial of 3,640 participants aged 55 to 80 years old sponsored by the National Eye Institute. Researchers found that a combination of antioxidants prevented progression of intermediate stage AMD.

The supplement used in the study had 500 mg of vitamin C, 400 IU of vitamin E, 15 mg (25,000 IU) of beta-carotene, 80 mg of zinc oxide, and 2 mg of copper oxide. This combination reduced progression from intermediate AMD to advanced AMD by 25%. As a comparison, the Recommended Daily Allowance (RDA) is 90 mg/day for vitamin C, 15 IU of vitamin E, 0.9 mg/day of beta-carotene, 11 mg/day of zinc, and 0.9 mg/day of copper.

The AREDS supplement did not benefit eyes with early stage AMD or eyes that already had advanced AMD with poor vision. The AREDS supplement *is* recommended for patients with advanced AMD in one eye if the fellow eye has no AMD or AMD with vision of 20/100 or better. This supplement is not a cure for AMD, nor will it restore vision already lost by AMD.

Bausch and Lomb manufactured the formulation used in the study, available as OcuVite PreserVision over-the-counter. There are a variety of formulations produced by different companies; the contents of the supplements should be reviewed for consistency with the AREDS formulation. The AREDS group recently reported that lutein (a retinal pigment) and a weekly serving of fish (which contains omega-3 fatty acids) also reduced the risk of progression. Several AREDS supplements from different manufacturers now include lutein, zeaxanthin (another pigment) and omega-3 fatty acids based on these reports.

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Smoking greatly increases the risk of AMD progression and vision loss. If you currently smoke or only recently quit, beta-carotene may increase your risk of lung cancer. Smoking also increases the risk of AMD. This is one more reason to stop smoking. If you smoke, you can take AREDS-type vitamin supplements that do not contain beta carotene (Smoker's formula).

What other research supports vitamin use for AMD?

A second large-scale study, the **AREDS2 Study**, is currently underway. AREDS2 will evaluate the effect of lutein and zeaxanthin (xanthophylls) and omega-3 fatty acids on progression from intermediate to advanced AMD. This objective will be accomplished by collecting and assessing the data on approximately 4,000 AREDS2 participants aged 50 to 85 years with intermediate AMD.

Omega-3 fatty acids have not been studied in prospective clinical trials as a dietary supplement. Large population studies have demonstrated that a higher dietary intake of omega-3 fatty acids, particularly in the form of fish, is associated with decreased progression of AMD. A review of almost 90,000 individuals revealed that regular fish intake was associated with a 38% reduction in late stage AMD. The best data available is not based on omega-3 fatty acid supplements, so it is unknown whether dietary supplements would provide the same beneficial effects seen from dietary intake of fish or other foods naturally containing omega-3 fatty acids. The AREDS2 Study will help determine the value of supplementation.

Lutein and zeaxanthin are critical components of pigments in the macula (central retina). Large population studies have demonstrated that higher dietary intake of foods rich in lutein and zeaxanthin reduced the risk of developing AMD or progression of existing AMD. Leafy green vegetables such as spinach and collard greens contain high amounts of lutein and zeaxanthin. A few prospective medical studies published to date do support a beneficial effect from supplementation, and the AREDS2 Study will provide high quality data in this regard.

Ask your eye doctor if you are unsure whether AREDS or similar vitamins are suitable for you.

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Bay Area Retina Associates is a group practice of retinal surgeons. All members of the group are board certified by the American Academy of Ophthalmology and have completed fellowship training in vitreoretinal surgery. BARA surgeons have expertise in the treatment of retinal detachment, diabetic retinopathy, age-related macular degeneration, macular hole, epiretinal membrane, and retinal vascular disease. BARA physicians see patients in eight offices and perform surgery at several hospitals and surgery centers around the East Bay.