

You may be wondering if there are there nutritional supplements that can help your vision. Below is some information regarding studies done to see if nutritional supplements can help prevent vision loss from age-related macular degeneration (AMD) and cataracts.

## Age-related Macular Degeneration (AMD)

AMD is a disease that affects part of the back of the eye called the macula, the central part of the retina. This can cause the center part of your vision to become blurry or wavy. It could also cause a blind spot in the center of your vision.

## Cataracts

A cataract is a clouding of the eye's lens, which blocks or changes the passage of light into the eye. The lens of the eye is located behind the pupil and the colored iris, and is normally transparent. The lens helps to focus images onto the retina—which transmits the images to the brain. Your vision may become blurry or dim because the cataract stops light from properly passing through to your retina.

## Age-Related Eye Disease Study (AREDS)

Age-Related Eye Disease Study (AREDS) was a study to examine if the daily intake of certain vitamins and minerals could reduce the risk of cataract and AMD. In 2001, the National Eye Institute (NEI) released findings from AREDS. The initial AREDS findings found that pharmacological-level doses of zinc, vitamins C and E, and beta-carotene along with copper may help slow the progression of AMD only in people who were at high risk of developing advanced AMD – those with intermediate AMD in one or both eyes and those with advanced AMD in one eye but not the other. Unfortunately, these nutrients did not lower the risk of cataract development.

## Age-Related Eye Disease Study 2 (AREDS2)

The National Eye Institute continued research on the use of nutritional supplements to preserve vision and the results of the follow-up study called AREDS2 were released by the NEI in 2013.



This study was used to determine if the AREDS formulation could be improved by adding the antioxidants, lutein and zeaxanthin, or adding omega-3 fatty acids. Previous studies have shown that these antioxidants were associated with a lower risk of developing advanced AMD. The study looked to see if lutein and zeaxanthin are a safer and more effective alternative to beta-carotene since they are from the same family of nutrients as beta-carotene. AREDS2 also examined removing beta-carotene and lowering the dose of zinc to see if it affected the risk of advanced AMD. Beta-carotene has been associated with increased risk of lung cancer in smokers and the zinc level used in the first AREDS was considered by some nutritionists to be too high.

### Original AREDS Formulation

- 500 mg of vitamin C
- 400 international units of vitamin E
- 15 mg beta-carotene
- 80 mg zinc oxide
- 2 mg copper as cupric oxide

### Modifications in AREDS2

- Adding lutein and zeaxanthin
- Adding omega-3
- Removing beta-carotene
- Reducing level of zinc

## AREDS2 Results:

- The original AREDS formulation reduced the risk of advanced AMD by about 25 percent over a five-year period.
- Adding omega-3 fatty acids or lutein/zeaxanthin to the original AREDS formulation (containing beta-carotene) had no effect.
- The AREDS formulation with the addition of lutein/zeaxanthin and no beta-carotene had a slight reduction in risk of advanced AMD compared to those with beta-carotene.
- For those with very low levels of lutein/zeaxanthin in their diet, adding supplements to the AREDS formulation helped lower their risk of advanced AMD and progression to cataract surgery.
- Removing beta-carotene or lowering zinc produced no significant changes in the effectiveness of the AREDS formulation.

## Living a Healthy Lifestyle

Lifelong good nutrition may lower the risk of some eye diseases. A diet rich in certain dark green vegetables may reduce the risk of AMD. You can also help your general eye health by avoiding smoking, staying active and controlling your blood pressure.

## Things to Keep in Mind

Pharmaceutical companies have developed supplements for vision health based on the results of AREDS and AREDS2. Caution is advised when considering taking supplements. The following points should be kept in mind:

- There is no evidence from this study to suggest that taking nutritional supplements can prevent people who currently do not have vision problems from getting AMD in the future.
- The results are restricted to the supplements evaluated (lutein, zeaxanthin, zinc, vitamins C and E, and beta-carotene).
- If you are like many Americans and take prescription and over-the-counter medications, you must be careful when combining those medications with nutritional supplements. High-dose supplements can interfere and interact with other medications, decreasing the nutrients' absorption into the body. The high doses of supplements are several times greater than those found in most multi-supplement formulations and may have some risks. Please consult your primary care doctors and/or eye care professionals before beginning the AREDS formulation.
- The AREDS formulation is not a substitute for a multivitamin. While the AREDS formulation includes nutrients for eye health in much higher doses than found in multivitamins, it is lacking in other key nutrients.
- Supplements are not a cure. You should NEVER stop taking your medication or other treatment in favor of taking supplements, without first consulting your doctor.

Prevent Blindness America recommends periodic dilated eye exams as the best way to ensure that your vision is healthy and to keep it that way. If you have AMD, or any vision problems, you should visit your eye doctor regularly according to a treatment plan that is appropriate for your condition.

