

## **Nutrition's role in age-related macular degeneration**

By Jennifer K. Nelson, R.D., L.D. October 1, 2015

Age-related macular degeneration (AMD) is a leading cause of vision loss in the U.S. It destroys the macula, the part of the eye that provides sharp, central vision. AMD progressively lessens the ability to read, write, recognize faces, safely drive or walk, and perform everyday tasks.

Because this condition increases with age, and because the U.S. population is aging, it's estimated that the number of people who have AMD will more than double from 2 million to over 5 million by 2050.

AMD is associated with several risk factors in addition to aging, including family history, high blood pressure, cardiovascular disease, obesity, smoking, low physical activity and poor diet.

Good nutrition and lifestyle play important roles in preventing and slowing the progression of this disease. The key nutrients identified so far are carotenoids (beta-carotene, lutein and zeaxanthin), vitamins C and E, copper, and zinc. These nutrients have antioxidant or anti-inflammatory properties. Omega-3 fatty acids from fish may also be beneficial, although this isn't as well supported.

Other lifestyle changes can help too, such as not smoking, exercising, and maintaining healthy blood pressure and cholesterol levels.

### Preventing AMD

Studies have shown that diet — but not supplements — can help prevent AMD. One study showed that diets with above-median levels of beta-carotene (including lutein and zeaxanthin), vitamins C and E, and zinc were associated with a 35-percent reduced risk for the disease.

The Eye Institute, part of the National Institutes of Health, has also found that food sources of omega-3 fatty acids are beneficial. It currently recommends eating fish in addition to plenty of green leafy vegetables.

Here are good food sources for these nutrients:

Veggies and fruits with carotenoids (beta-carotene, lutein, zeaxanthin) and vitamin C: Kale, collards, bell peppers, broccoli, sweet potato, spinach, green peas, pumpkin, carrots, Swiss chard, peaches blueberries, oranges, tangerines, mangos, tomatoes, apricots, papaya, cantaloupe, honeydew, avocado, grapefruit

Foods high in vitamin E: Sunflower seed kernels, almonds, peanuts, fortified cereals, wheat-germ oil, fortified soymilk, sunflower oil, canned tomato products, turnip greens, tofu

Foods that provide zinc: Alaskan king crab, lamb, bulgur, lean beef, fortified breakfast cereal, dried beans, pork, poultry (dark meat), whole-wheat and buckwheat flours, pumpkin seeds

Fish high in omega-3 fatty acids: Salmon, mackerel, herring, lake trout, sardines, albacore tuna

### Slowing progression of AMD

While dietary supplements can't prevent AMD, they can help slow progression in people who have the disease.

In the Age-Related Eye Disease Study (AREDS1), high levels of vitamins C and E, beta-carotene, zinc and copper from supplements reduced the risk of progression to advanced AMD by 25 percent after 5 years. The effect persisted for another 5 years of follow-up after the study.

The Age-Related Eye Disease Study 2 (AREDS2) looked at whether the AREDS1 formula could be improved by adding omega-3 fatty acids or lutein and zeaxanthin. The AREDS2 trial found that the addition of omega-3 fatty acids or lutein and zeaxanthin produced no further reduction in progression of AMD.

However, it is important to point out that the AREDS2 formula that contained lutein and zeaxanthin (instead of beta-carotene) did not increase smokers' risk of lung cancer, as was the case for the AREDS1 formula.

### What you can do

To prevent AMD, eat foods that provide carotenoids (beta-carotene, lutein and zeaxanthin), vitamins C and E, zinc and omega-3 fatty acids. This is a good idea for health in general but it's especially important if you have a family history of AMD. Same goes for the other lifestyle recommendations listed above.

If you have AMD, talk with your doctor about supplements such as those used in the AREDS1 and AREDS2 trials. Also be sure to eat healthy, don't smoke, exercise regularly, and keep your blood pressure and cholesterol levels at acceptable levels.