

Understanding Your Eye Vitamins

By **DR. PAMELA KAW**

Fear of blindness leads many of us to hunt for preventative solutions. Pharmacy shelves are loaded with bottles of vitamins, many with hefty price tags. Navigating the shelves to look for a product that is right for you can be daunting.

Blindness is most commonly caused by macular degeneration and cataracts. Small studies in the past had shown that zinc supplements can prevent macular degeneration. In addition to zinc, scientists also wanted to study the role of anti-oxidants (Vitamins C, E and Beta carotenes) in eye diseases.

The National Eye Institute conducted a large study on thousands of patients and published its results in 2001. This study was called Age Related Eye Disease Study (AREDS).

Based on the results of this study it recommended using AREDS formula—a combination of zinc and antioxidants (Vitamins E, C and beta-carotene) to prevent blindness. The doses used in AREDS were as follows:

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

Some clarifications about the ingredients: a) Cupric oxide lessens the incidence of zinc induced anemia b) Beta-carotene is an inactive form of Vitamin A that gets converted to active form in the gut.

Later, scientists found that beta-carotene present in AREDS formula increased the risk of lung cancer in smokers. So they came up with AREDS 2, in which they replaced beta-carotene with similar compounds- lutein and zeaxanthines, and also added omega-3 fatty acids.

They wanted to see if:

1. AREDS 2 decreased the risk of lung cancer in smokers
2. AREDS 2 was more effective than AREDS

Important results of these two studies were as follows:

1. AREDS formula helped people with only moderate to severe macular degeneration and had no effect in people with mild macular degeneration.
2. AREDS formula had NO effect on progression of cataracts.
3. AREDS suggested an increased risk of lung cancer in smokers.
4. AREDS 2 did decrease the risk of lung cancer in smokers,



but was not more beneficial than original AREDS

5. The ingredients in AREDS can cause side effects:

- ▶ Beta-carotene (yellow skin)
- ▶ Vitamin C (kidney stones)
- ▶ Vitamin E (muscle weakness, thyroid disease, bleeding disorder, prostate cancer)
- ▶ Zinc (Anemia)

Patients prone for any side effects can take zinc alone or antioxidants alone and still have some beneficial effects, though not as much as the combination.

Weighing the benefits versus risks of taking AREDS, AREDS 2, Zinc or antioxidants can be complicated. Here are some take home points :

1. AREDS formula has been shown to slow progression of moderate to severe macular degeneration.
2. AREDS 2 formula is safer than original AREDS formula in people who smoke and/or who cannot take greens in their food.
3. AREDS formula DOES NOT replace daily multivitamins.
4. People with mild macular degeneration should consult with their primary care doctors if they are contemplating taking AREDS (in this subgroup the side effects of high doses of beta-carotenes, Vitamin E, Vitamin C and zinc may outweigh the benefits).

Pamela Kaw MD is in private practice in Troy. For any questions or clarifications regarding this article you may email her at pamkaw@gmail.com.