



VITAMINS / SUPPLEMENTS

B Vitamins May Reduce Risk of Age-Related Macular Degeneration

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A study published in the July 2013 issue of the *American Journal of Clinical Nutrition* provides additional evidence suggesting higher nutritional status of certain B vitamins may be important in the prevention of [age-related macular degeneration \(AMD\)](#), which is the leading cause of vision loss in people over 55 years of age in the U.S. and Canada.¹ Previous studies have shown that taking certain antioxidant vitamins and minerals as supplements (vitamin E, vitamin C, beta-carotene, selenium and zinc), at specific dosages, can slow the progression of AMD.²⁻³

The Blue Mountains Eye Study

In the latest study, known as the Blue Mountains Eye Study (Australia), serum folate (B-vitamin folic acid), vitamin B₁₂ and homocysteine status were determined from blood samples drawn in 1997-1999 from cohort members ages 55 and older. AMD was assessed in 1,760 survivors from retinal photographs taken in 2002-2004 and 2007-2009. Total intakes of folic acid and vitamin B₁₂ were assessed using a food-frequency questionnaire.

Results showed that higher blood levels of homocysteine were associated with a significant increased risk of developing AMD, whereas higher serum levels of vitamin B₁₂ were strongly associated with decreased risk of developing AMD. More specifically, data showed that increased concentrations of serum total homocysteine were associated with approximately 30 percent increased odds of developing AMD over 10 years, and increased concentrations of serum vitamin B₁₂ were associated with an approximate 30 percent reduced odds of developing AMD. Serum folate was less strongly associated, with an approximate reduced odds of 10 percent for development of AMD.



People with folate or vitamin B₁₂ deficiency at the beginning of the study (baseline) were approximately twice as likely to develop AMD during the 10-year study period.

Homocysteine is a toxic end-product of metabolism known to damage blood vessels and increase the risk of cardiovascular disease. Studies continue to show that high serum levels of homocysteine also contribute to damage seen in AMD. The Blue Mountain Eye Study provides further evidence to support this hypothesis.

What is important is that homocysteine levels are reduced via supplementation with, and dietary intake of, vitamin B₁₂ and folic acid. These B vitamins recycle homocysteine back to the nontoxic and highly useful amino acid known as methionine. This explains why high levels of serum homocysteine, and low levels of vitamin B₁₂ and folic acid, are so strongly linked to the development of AMD, as confirmed in the Blue Mountains Eye Study.

Preventive Strategies

It is thought that AMD is a highly preventable disease, thus requiring attention to various lifestyle behaviors. Extrapolating from what we know from experimental, observational and clinical studies, the following practices appear to be the best proactive strategies to prevent the development of AMD:

- Don't smoke
- Protect your eyes from UV light
- Prevent the onset of type 2 diabetes by maintaining your ideal weight, performing endurance and strength-training exercises regularly, and keeping your **fasting glucose** level below 5.0 mmol/L (90 mg/dL)
- Eat a diet rich in brightly colored vegetables and fruit (dark green, yellow, orange, blue, purple, red).
- Keep your cholesterol level low by also consuming foods low in total cholesterol, saturated

fat and trans fats.

- Take a high-potency multivitamin/mineral each day that contains the following dosages of antioxidants and B vitamins:
 - Vitamin C: 1,000 mg
 - Vitamin E: 400 IU
 - Selenium: 200 mcg
 - Zinc: 15 mg
 - Beta-carotene: 15,000 IU
 - Lutein powder: 6 mg
 - B-50 complex, including 400 mcg folic acid, 50 mcg vitamin B₁₂ and 50 mg vitamin B₆ (which also lowers homocysteine)

For individuals who already have advanced macular degeneration, higher dosages of certain vitamins, minerals and phytonutrients are required to slow the progression of the disease. These therapeutic dosages are available by taking my online nutrition / lifestyle / anti-aging assessment at www.naturalhealthtest.com.

References

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2. Evans JR, Lawrenson JG. Antioxidant vitamin and mineral supplements for slowing the progression of age-related macular degeneration. *Cochrane Database Syst Rev*, 2012;11:CD000254.
3. Age-Related Eye Disease Study Research Group. A randomized, placebo-controlled, clinical trial of high-dose supplementation with vitamins C and E, beta carotene, and zinc for age-related macular degeneration and vision loss: AREDS report no. 8. *Arch Ophthalmol*, 2001;119:1417-36.

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