



Research to Prevent Blindness

Guide to Eye Health

Diet, lifestyle, environment and aging have a profound effect on vision. Aside from aging, you can modify these risk factors. By making eye-healthy choices, you may be able to reduce the severity or rate of progression of a vision affliction.

You should seek advice from and schedule regular, annual examinations with your eye care specialist (more often if you are experiencing diminished vision).

Much of the following information is based on studies supported by Research to Prevent Blindness (RPB).

Lifestyle and Sight

Lifestyle choices are far more important for vision health than most people realize. How one lives in today's environment brings both risks and rewards.

After aging, smoking is the most significant risk factor for age-related macular degeneration (AMD). Limiting exposure to smoke and stopping smoking may be beneficial in reducing dry eye symptoms and may prevent or delay the development of cataract (clouding of the lens).

Obesity has been connected to high blood pressure and cardiovascular disease—both of which are risk factors for glaucoma, diabetic retinopathy and AMD. Overweight individuals also tend to have a higher risk of cataract.

Exercise—enough to sweat, three times a week—reduces the likelihood of developing AMD (by 70% for people aged 43-86). This may be because physical activity can reduce factors associated with AMD (including high body mass index, white blood cell count and blood pressure). Separately, high blood pressure has been linked to wet AMD and can lead to progression of diabetic retinopathy.

Keep in Mind

- Television watchers and computer users blink less frequently, which can cause or intensify symptoms of dry eye. Your eye care specialist may recommend ocular lubricants or environmental modifications.
- Heavy alcohol consumption has been connected to AMD and cataract.
- Gastric bypass patients may require vitamin A supplementation; one year after surgery, 52% experience vitamin A deficiency, which can result in night blindness, tear deficiency and corneal scarring.
- Extended-wear silicone hydrogel contact lenses provide a lower risk of corneal infection with a greater number of consecutive nights of wear versus conventional extended-wear soft lenses.

Sunlight and Sight

Exposure to intense sunlight may contribute to AMD. It also increases risk of cataract and corneal disease, and can cause tissue growth on the surface of the eye known as pterygium (which may contain cancer precursor cells). As a result, scientists recommend protecting your eyes from the ultraviolet (A and B) and blue light spectrums by wearing wide-brimmed hats and UV-blocking sunglasses (amber protects best against blue light).



Vegetables

Corn, spinach, collards, kale, orange pepper, carrots, zucchini, broccoli.



Fruits

Blueberries, kiwi fruit, grapes, avocados, orange juice.



Fish

Salmon, herring, sardines, mackerel, lake trout, tuna.



Nuts

Walnuts, almonds, Brazil nuts, hickory nuts, macadamia nuts, peanuts, hazelnuts.

**Nuts are one of the best plant-based sources of omega-3 essential fatty acids.*

Dietary Supplements

Vitamins A, B1, B2, B3, C, D and E, as well as the minerals zinc and copper.

Nutrition and Sight

A diet that includes colorful fruits and vegetables, dark leafy greens, nuts, frequent servings of fatty, cold-water fish and foods low on the glycemic index is a foundation for healthy vision. The glycemic index ranks foods according to how quickly they raise blood sugar levels.

Antioxidants prevent or slow oxidative damage that occurs as our bodies use oxygen to produce energy. Lutein and zeaxanthin (from dark leafy greens, colorful fruits and vegetables, egg yolks or supplements) may protect against AMD and have been associated with decreased prevalence of cataract in older women. Zeaxanthin, lipoic acid and curcumin (found in turmeric, a spice used in curries) may prevent or inhibit the progression of diabetic retinopathy. Sulforaphane, found in broccoli, may protect against retinal degenerative diseases.

Vitamins, including vitamin D (from milk, fish and exposure to the sun), may protect against early AMD. Zinc supplements with copper have protective effects in patients with advanced AMD. Vitamins A, B1, B2 and B3 may protect against cataract. In women 65 and older, higher intake of foods rich in vitamins A, B2 and C is associated with a decreased risk of glaucoma.

Omega-3 essential fatty acids (particularly DHA), found abundantly in fish oil, lower the risk for and may help prevent geographic atrophy, one of the end stages of AMD. They also reduce inflammation and discomfort from dry eye, and enhance absorption of lutein. Conversely, consuming high levels of saturated fat (found in fatty meat, whole-milk dairy products and coconut/cottonseed/palm oils) has been associated with an 80% *increased* risk of AMD.

The **blood sugar-raising effect of food** influences eye health. For people with diabetes, consistently high blood sugar levels increase the risk of diabetic retinopathy, while good blood sugar control can prevent or slow the condition. But there is also considerably greater risk for AMD and cataract among people who consume higher glycemic index diets.

Supplements to Reduce Risk of AMD

People who take nutritional supplements to reduce the risk of AMD progression should be aware that a study by the National Eye Institute suggests changes to the formula they may have been taking. The Age-Related Eye Disease Study 2, or AREDS 2, formula adds lutein and zeaxanthin in place of beta carotene. Beta carotene suppresses the action of lutein and zeaxanthin and has also been linked to increased risk of lung cancer when taken as a supplement by people who smoke. The new formula is 400 IU of vitamin E, 500 mg vitamin C, 10 mg lutein and 2 mg zeaxanthin, 80 mg zinc and 2 mg copper.

Invest in Your Vision

You can join RPB in supporting critical research in the fight against vision loss by sending your tax-deductible donation to the address shown below or online at www.rpbusa.org. RPB is a public 501(c)(3) foundation.



Research to Prevent Blindness

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Since 1960, RPB has led a research effort to preserve vision and restore sight, supporting nearly every major development in the treatment of blinding disorders.