



## Macular Degeneration and Nutritional Supplements

Age-related macular degeneration (ARMD) is a disease caused by damage or breakdown of the *macula*, the small part of the eye's retina that is responsible for our central vision. This condition affects both distance and close vision and can make some activities—like threading a needle or reading—very difficult or impossible. Macular degeneration is the leading cause of severe vision loss in people over 65.

Although the exact causes of ARMD are not fully understood, a recent scientific study shows that antioxidant vitamins and zinc may reduce the impact of ARMD in some people with the disease.

Among people at high risk for late-stage macular degeneration (those with intermediate ARMD in both eyes or advanced ARMD in one eye), a dietary supplement of vitamins C, E and beta carotene, along with zinc, lowered the risk of the disease progressing to advanced stages by about 25 to 30 percent. However, the supplements did not appear to benefit people with minimal ARMD or those who have no evidence of macular degeneration.

Light may affect the eye by stimulating oxygen, leading to the production of highly reactive and damaging compounds called *free radicals*. Antioxidant vitamins (vitamins C and E and beta carotene) may work against this activated oxygen and help slow progress of macular degeneration.

Zinc, one of the most common minerals in our body, is very concentrated in the eye, particularly in the retina and macula. Zinc is necessary for the action of over 100 enzymes, including chemical reactions in the retina. Studies show some older people have low levels of zinc in their blood. Because zinc is important for the health of the macula, supplements of zinc in the diet may slow down the process of macular degeneration.

The levels of antioxidants and zinc that were shown to be effective in slowing ARMD's progression cannot be consumed through your diet alone. These vitamins and minerals are recommended in specific daily amounts as supplements to a healthy, balanced diet.

It is very important to remember that vitamin supplements are not a cure for ARMD, nor will they restore vision you may have already lost from the disease. However, specific amounts of certain supplements do play a key role in helping some people at high risk for advanced ARMD to maintain their vision. You should speak with your ophthalmologist

to determine if you are at risk for developing advanced ARMD, and to learn if supplements are recommended for you.