Age Related Eye Disease and Diabetic Retinopathy Support

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Note: to have optimal response, all recommendations begin with Opti-Vites, Opti-PUFA. (see A Basic protocol).

This information is intended for the use of health care professionals. It has not been evaluated by the FDA and is not intended to diagnose, treat, cure or prevent any disease. You should consult a qualified health care provider for advice before beginning any new health care program.

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Product</th>
<th>Q/Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>My multi or one with the same nutraceuticals and with the same bioavailability.</td>
<td>Opti-Vites*</td>
<td>2</td>
</tr>
<tr>
<td>Essential Fatty Acids - omega 6 (GLA) AND omega 3 (EPA, DHA and SDA)</td>
<td>Opti-PUFA</td>
<td>8</td>
</tr>
<tr>
<td>Vitamin E - mixed tocopherols</td>
<td>Vitamin E-400</td>
<td>1</td>
</tr>
<tr>
<td>Xanthophylls - Lutein and Zeaxanthin plus Vitamin C</td>
<td>Ultra-Vision</td>
<td>1-2</td>
</tr>
</tbody>
</table>

Other important nutrients:

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Product</th>
<th>Q/Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilberry 200 mg, 6:1 concentrate</td>
<td>Bilberry</td>
<td>1-3</td>
</tr>
<tr>
<td>Increase Vitamin C 500 mg</td>
<td>Vitamin C-500</td>
<td>1-3</td>
</tr>
<tr>
<td>MSM</td>
<td>Opti-MSM</td>
<td>1-2</td>
</tr>
<tr>
<td>L-Taurine 500 mg</td>
<td></td>
<td>1-2</td>
</tr>
<tr>
<td>n-Acetyl-Cysteine 600 mg</td>
<td></td>
<td>1-2</td>
</tr>
</tbody>
</table>

Diabetes - diabetic retinopathy

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Product</th>
<th>Q/Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoQ10 100 mg</td>
<td>Ultra-CoQ10 100</td>
<td>1</td>
</tr>
<tr>
<td>Alpha Lipoic Acid, Cinnamon, GTF Chromium</td>
<td>Opti DM Complex</td>
<td>2am/2pm</td>
</tr>
<tr>
<td>Anti inflammatory</td>
<td>InflamEase</td>
<td>2, 3x/Day</td>
</tr>
</tbody>
</table>

* use a multi without iron unless there is a known need for iron

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Who will be most interested in the information in this protocol? Those persons with age related vision problems, including those with diabetic retinopathy. All of my protocols have the same ultimate goal: to maintain the best possible function and promote healthy aging. And to that end the eye is one of the most demanding organs in the body.

There are two studies called Age Related Eye Disorders: AREDS and AREDS-2. These studies are conducted by National Eye Institute (NEI), of the U.S. National Institutes of Health. The nutrients used in these studies demonstrate a very positive response to several conditions, including Age Related Macular Degeneration (AMD).
Anti oxidants and other nutrients used by researchers in the AREDS study were vitamin C, Vitamin E, Beta Carotene, Zinc and Copper. The ongoing AREDS2 study is evaluating the effect of the addition of omega 3 essential fatty acids, the removal of Beta Carotene, the reduction in the amount of zinc, and the addition of the xanthophylls, Lutein and Zeaxanthin. Beta carotene has been removed because it interferes with the action of the xanthophylls.

The information presented here is based partly these AREDS studies, and on research I did that led to my previous (very effective) formula, called Opti-Plus.

Recent studies and clinical experience have led me to my current recommendations.

The macular pigment consists mostly of lutein and zeaxanthin. These xanthophylls cannot be synthesized in mammals, so they must be ingested. Studies have shown that the levels of these xanthophylls in the macula can be increased by their supplementation. There are many other nutrients that have been shown to have a positive effect on age related diseases of the eye, such as macular degeneration, cataracts, dry eye and diabetic neuropathy. This information was used to create this protocol, and the one for Vision Support, for use in these and related conditions.

As stated elsewhere, the eyes are specialized organs, but they do exist in the body. While they benefit from specialized nutrients, they still require the same broad-spectrum nutrients that the body needs. Hence my belief that Opti-Vites and Opti-PUFA are essential to my protocol. Opti-PUFA provides the pre formed, long chain eicosapentaenoic acid (EPA), docosapentaenoic acid (DHA) and stearidonic acid (SDA) from the omega 3 family, plus the essential fatty acid gamma linolenic acid (GLA) from the omega 6 series. Fish oil meets only some of the EFA needs. Support this marvelous biochemical factory by daily coverage of ALL of the nutritional needs.

Many of the nutraceuticals that have been shown to be effective are discussed and used in this protocol.

See my protocol “Vision Support” for information about basic support in the event of early diagnosis or prevention.

My Recommendations
Opti-Vites is important because it provides so many of the nutrients that have been shown to improve vision. And the body needs all of the ingredients in Opti-Vites in order to maintain health.

Consider Ultra Preventive because it contains 1.1 gm Spirulina, a rich source of amino acids, nutrients and phyto nutrients.

Opti-PUFA is an optimal and unique blend of preformed omega 3 and omega 6 long chain poly unsaturated essential fatty acids. (LCPUFAs). They are essential because they cannot be made by the body and must be either in the diet or supplemented.

Essential fatty acids have a strong track record of success in a long list of healthy support for all the systems in the body and healthy aging. The components have been shown to be useful in decreasing the intra ocular pressure in open-angle glaucoma. Opti-PUFA improves vascular circulation in the eye by decreasing atherosclerotic changes. This helps supply the nutrients that are so critical to proper function of the eyes. Dosage may need to be increased well beyond the usual recommendations.

Vitamin E-400 contains 400 IU of mixed tocopherols. Vitamin E is one of the 4 major antioxidants that protect phospholipids like EPA, DHA, SDA and GLA.

The Ultra-Vision formula contains 4.75 mg Lutein, 4.75 mg Zeaxanthin and 200 mg Vitamin C. Studies have shown that their supplementation raises their concentration in the macula. The Zeaxanthin in Ultra-Vision is the 3R 3'R Chiral isomer that occurs naturally and has been proven to be the
most bioavailable. Non-dietary, synthesized forms are not found in the food supply and have a lower bioavailability. These variant forms are not the same physically or functionally. They act differently in the eye, and are commonly mislabeled (from the FDA’s point of view), as zeaxanthin. The only way to be sure that the product contains the natural 3R 3’R Zeaxanthin is to request a copy of the Chiral analysis.

Age Related Eye Disease
This section is of interest to those who have any of the Age Related Eye Diseases. Supplements should include the above recommendations - plus:

Bilberry contains 200 mg Vaccinium myrtillus in a 6:1 concentrate - equivalent to 1200 mg. Bilberry studies show it has antioxidant properties that protect the phospholipids and it prevents free radical oxidation. It is rich in anthocyanidins and proanthocyanadins. Studies have shown that its use improved vision in people with cataracts and macular degeneration. It has also been used successfully in Diabetic retinopathy, and glaucoma. It has been shown to slow the development of cataracts. It also improves night vision.

Vitamin C-500 is a true time released Ascorbic Acid with Rutin. Vitamin C-500 plus Ultra-Vision plus Opti-Vites delivers a total of 800 mg vitamin C. Vitamin C is an antioxidant that has a long track record for use in diseases of the eye.

Opti-MSM. MSM is important to vision because it is a methyl donor and enhances the action of transmethylation. Opti-Vites contains high levels of Folic acid and B12. These two vitamins play an active role in transmethylation, which is critical to proper macular function. Ps - the addition of MSM, which is a methyl donor, further enhances transmethylation.

L-Taurine, at 500 mg per day, has been shown to slow macular degeneration and cataract formation. In addition, taurine protects the eyes from ultraviolet light.

n-acetyl-cysteine (NAC ), 600 mg per day. NAC raises l-Glutathione levels in the blood and other organ tissues, including the eye. l-Glutathione is a potent anti oxidant and is extremely important to the aging eye (including Diabetic Retinopathy), which is at considerable risk from oxidative stress. Supplementing with l-Glutathione has not been shown to raise blood levels of l-Glutathione .

Diabetic retinopathy
In addition to all of the above recommendations, there are special needs for Diabetic retinopathy. One should add the following products to the above list, and use 8 Opti-PUFA per day

Ultra CoQ10 100. CoQ10 levels in the body (including the retina) start to decline at approximately age 30, and continue to decline with age by as much as 40%. The use of statin drugs without CoQ10 supplementation will rapidly decrease the levels of CoQ10 in the body - and in the eye. This decrease may be linked to the progression of AMD.
CoQ10 is another one of the primary phospholipid antioxidants. It is important to cellular energy production, cell membrane stabilization and it prevents LDL oxidation.

**Ultra-DM Complex** is a mixture of three substances (Alpha Lipoic Acid, Cinnamon and GTF Chromium) that have been shown to help control blood sugar in Individuals who are insulin resistant or who have type 2 diabetes. When used together they have a synergistic action. This product can be used with or without insulin or oral hypoglycemic medications. There have been some studies showing the benefit of Alpha Lipoic acid and GTF Chromium on macular health. Alpha Lipoic acid is another one of the major phospholipid antioxidants.

**Inflamease** contains 406 mg Proprietary blend: Vitis vinifera (*BioVin® full spectrum grape*) extract, pineapple (*Ananas comosus*) fruit extract, burdock (*Arctium lappa*) root extract. *BioVin®* is a proantocyanadin, which is a potent anti inflammatory, and is also protective against lipid peroxidation. Proanthocyanadins have been shown to have activities that improve diabetic complications such as neuropathy, retinopathy or nephropathy.

**In summary:**
Covering all the nutritional bases is very important. It is the first step in providing nutrition support for vision. Additional nutrients may be helpful with specific vision problems.

Aging carries with it many health problems. These problems are made worse with the secondary problems associated with Diabetes. The eye normally has very high nutritional requirements. Aging complicates and may increase the nutritional requirements.

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