

Healthy Eyes

April 20, 2020

The eye has been called the window of the soul, and as Matthew 6:22 states, *“The eye is the lamp of the body. If your eyes are healthy, your whole body will be full of light.”* The health of your eyes can say a lot about your overall physical health and well-being. This is especially true concerning the vascular diseases such as hypertension and diabetes.

Ever since the Age-Related Eye Disease Studies (AREDS/AREDS2), the pharmacy and health-food store shelves have been stocked with ocular vitamins promoting optimal eye health. There is good reason for this, as the eye disease studies showed that a certain combination of nutrients could moderately and measurably stabilize and slow down the progression of the *dry* form of macular degeneration. The dry form of macular degeneration is believed to be due to, or exacerbated by, an inadequacy or inability of appropriate nutrients to reach and nourish the retinal tissues. Smoking presents as a high-risk factor for this type of macular degeneration and there may be a hereditary, genetic component as well. Central vision loss (acuity) may be significant and permanent and there is no treatment except for ocular vitamins and stabilization of the disease process.

Conversely, the *wet* form of macular degeneration is due to a leakage of vascular fluid in the retina and underlying retinal tissues and is usually better treated with injections and photo-dynamic therapy and is not seen to be typically hereditary, but more frequently seen in people with cardio-vascular disease. Central vision loss may be reversible in many cases but may require long periods of treatment and multiple and expensive injections.

Cataracts are probably the most common of all the eye diseases, as most, if not all of us will ultimately develop them with time. Cataracts are simply an opacification and yellowing of the normally clear crystalline lens of the eye which sits behind the iris and pupil. This metabolic oxidation can be exacerbated by excessive ultraviolet light exposure, medications, smoking, other environmental factors, and possibly genetic factors as well. Central visual acuity loss, night vision difficulties, color vision perception changes, glare sensitivity and distortions will all frequently increase with the progression of the cataract. Both eyes are typically affected, but one eye may be more advanced. Treatment is typically surgical removal with associated intraocular implants, which has a great success rate. Nutrients and antioxidants seem to have positive, but variable effects in intervention and prevention and may help to slow down or stabilize the cataract progression. N-acetylcarnosine (NAC eye drops, Can-C), an amino acid in eye drop form, has been used much in Russia and some other European countries but noticeable and measurable improvements can be highly variable. The drops are relatively expensive as well and often difficult to obtain but can be found online. A better option, as we shall see below, is probably an overall healthy diet and lifestyle with an appropriate multivitamin and multimineral supplement with additional antioxidant nutrients taken daily for optimal health and well-being.

The ocular vitamin or vision formulas that you will find in the store, including I-Caps, PreserVision AREDS 2, Ocuvite, and their associated generics will typically contain the following in similar concentrations—Vitamin C, 150–250 mg; Vitamin E, 20 mg (30 IU)–135 mg (200 IU); zinc, 10–40 mg; copper (to balance the zinc), 1 mg; the antioxidants

lutein, 5 mg and zeaxanthin, 1 mg; and sometimes the Omega-3 fatty acids EPA and DHA, 250 mg or so. As you can see from these numbers, the amounts of each nutrient can vary widely from product to product. The primary ocular health components are the antioxidant vitamins, C and E; zinc; and the antioxidant plant carotenoids, lutein and zeaxanthin; which most of us do not get enough of dietarily. There is a caution with excessive zinc intake over about 60 mg per day as this tends to decrease copper absorption, which further decreases your iron absorption. All these minerals must be in balance. If you are taking a PreserVision formula (which is very high in zinc), it is essential that you make sure you are not taking any additional zinc supplements, including the use of zinc lozenges. The Omega-3 fatty acids have not shown any particular eye health advantage, but they certainly are important for healthy cardiovascular function and have been shown also to be very helpful for many people who experience dry eye conditions. I strongly recommend taking a fish oil supplement daily of about 1000 mg.

The ocular vitamin formulations, especially the name brands, can be quite expensive. In lieu of this strategy, I strongly recommend taking a complete multivitamin and multimineral supplement (*with iron*), such as Centrum or a generic, which contains the full daily value of all the essential vitamins and the essential trace minerals with smaller amounts of the required major minerals (calcium, phosphorus, magnesium, potassium, and chloride); 25–30 nutrients in all should be listed. I would then add a separate product with at least 10 mg of lutein and at least 600–800 micrograms of zeaxanthin. To this I would add the fish oil, and you could add extra vitamin C and E, which are relatively inexpensive, and maybe even an additional vitamin B-complex for optimal energy and metabolism. You must also make sure you are getting enough calcium and magnesium and may need additional supplements to augment those intakes.

Here Is Your Healthy Eyes Checklist—

- ✓ A complete multivitamin/multimineral supplement with iron—once daily
- ✓ Lutein 10 mg with zeaxanthin 600–800 micrograms—once daily
- ✓ Fish oil 1000 mg—once or more daily

For optimal health and well-being, you may then want to add—

- ✓ Additional vitamin C 500–1000 mg daily
- ✓ Additional vitamin E 200–400 IU (135–270 mg) daily
- ✓ Additional vitamin B-complex with extra amounts of all the B-vitamins, once daily
- ✓ Make sure you are getting at least 1,300 mg of calcium and 420 mg of magnesium daily
- ✓ Probiotics and proper amounts of fiber are also important for good health

On a final note, since dry eye is such a common complaint and is exceedingly difficult to cure, ocular lubricants are typically required. Some doctors recommend GenTeal or Systane, but my personal favorite is Refresh Tears by Allergan. The Refresh line of products are all preservative free, conveniently available in multi-drop containers, and are safe to use with contacts. Refresh Tears is the standard version, Refresh Liquigel and Refresh Gel Drops are twice as viscous so they last longer but may blur vision a few minutes after instillation, and Refresh Advanced has an oil component to help keep tears from evaporating as quickly. Refresh Advanced is not recommended for contact lens wearers as the oil component can stick to the surface of contacts and cause blurred vision for longer periods of time. You may need to instill these drops 6–8 times daily or more.

Infrequent blinking, staring at a computer screen, heating, wind and air flow—all can contribute to a dry eye condition. There are prescription eye drops for dry eye syndrome, namely Restasis and Xiidra, which serve to stimulate your own tear glands to produce more tears, but these drops are exceedingly expensive, take a month or more to show improvement, have variable effectiveness from person to person, and still need to be maintained on a regular basis.

Ocular allergies are also common problems and my two best recommendations for OTC drops are Alaway (longer acting) and Opcon-A (shorter acting) by Bausch and Lomb. Both of these contain an antihistamine to help alleviate the typical ocular symptoms and Opcon-A has a vasoconstrictor to whiten the eye temporarily. These drops should only be used a few times daily at most. Lumify is the newest whitening eye drop by Bausch and Lomb and has the advantage that it does not typically cause a rebound redness effect that other vasoconstrictors may precipitate with excessive use. Lumify does not contain an antihistamine so it does not really help specifically with allergy symptoms like itchy, watery eyes. Be advised that most eye drops on the market should staunchly be avoided as they are laden with chemicals and preservatives that will typically irritate the eye more than soothe it. There are prescription allergy eye drops, notably Patanol and Pataday, which block the ocular allergic reactions in an early stage, so they are very effective, but also expensive.

I intentionally left out an elaborate discussion of the vital importance of Vitamin A (beta carotene) even though it is essential for proper eye health (especially night vision and ocular surface health) due to its complicated and confusing interactions in smokers. For reasons not understood, it seems that high doses of vitamin A or beta carotene can actually increase the incidence of lung cancer in smokers. Therefore, high doses of vitamin A are not recommended for smokers but may typically be fine for everyone else. Taking the multivitamin/multimineral supplement is critical in assuring that you are getting all these essential nutrients in at least adequate amounts. Beta carotene and most of the essential nutrients can be especially found in colorful and green leafy vegetables. A healthy diet high in a variety of vegetables and fruit is an essential part of staying healthy and well along with your supplement regimen.

I hope that this has been helpful for you in maintaining your healthy eyes!

Feel free to contact me for more information @
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For more general information on health and well-being see my *Outline for Life—Body* on the [Resources](#) page of my website or in my online [Store](#).

For your information, see the chart on the final page for the newest recommended Daily Values (Reference Daily Intake) for the vitamins and minerals.

RDIs - Nutrients

Nutrient	Unit of measure	Adults and Children ≥ 4 years	¹ Infants through 12 months	Children 1 through 3 years	Pregnant women and lactating women
Vitamin A	Micrograms RAE ² (mcg)	900	500	300	1,300
Vitamin C	Milligrams (mg)	90	50	15	120
Calcium	Milligrams (mg)	1,300	260	700	1,300
Iron	Milligrams (mg)	18	11	7	27
Vitamin D	Micrograms (mcg) ³	20	10	15	15
Vitamin E	Milligrams (mg) ⁴	15	5	6	19
Vitamin K	Micrograms (mcg)	120	2.5	30	90
Thiamin	Milligrams (mg)	1.2	0.3	0.5	1.4
Riboflavin	Milligrams (mg)	1.3	0.4	0.5	1.6
Niacin	Milligrams NE ⁵ (mg)	16	4	6	18
Vitamin B ₆	Milligrams (mg)	1.7	0.3	0.5	2
Folate ⁶	Micrograms DFE ⁷ (mcg)	400	80	150	600
Vitamin B ₁₂	Micrograms (mcg)	2.4	0.5	0.9	2.8
Biotin	Micrograms (mcg)	30	6	8	35
Pantothenic acid	Milligrams (mg)	5	1.8	2	7
Phosphorus	Milligrams (mg)	1,250	275	460	1,250
Iodine	Micrograms (mcg)	150	130	90	290
Magnesium	Milligrams (mg)	420	75	80	400
Zinc	Milligrams (mg)	11	3	3	13
Selenium	Micrograms (mcg)	55	20	20	70
Copper	Milligrams (mg)	0.9	0.2	0.3	1.3
Manganese	Milligrams (mg)	2.3	0.6	1.2	2.6
Chromium	Micrograms (mcg)	35	5.5	11	45
Molybdenum	Micrograms (mcg)	45	3	17	50
Chloride	Milligrams (mg)	2,300	570	1,500	2,300
Potassium	Milligrams (mg)	4,700	700	3,000	5,100
Choline	Milligrams (mg)	550	150	200	550