

CardioTabs for Healthy (Not Dry) Eyes

by Thomas Anderson, OD

Dry Eye Syndrome (DES) is one of the most prevalent ocular conditions in the United States and a frequent reason that people seek eye care¹. Age-related Macular Degeneration (AMD) is the leading cause of severe visual impairment and blindness among the expanding elderly population in the United States. Since the elderly population has a longer life expectancy, the prevalence and burden related to this disease will increase in the years to come. With limited treatment options currently available for this public health concern, an effective approach for reducing the impact of this disease is prevention².

Inflammation of the lacrimal gland, meibomian gland, and the ocular surface plays a significant role in DES. Patients with DES have an increased concentration of inflammatory cytokines, such as interleukin-1, interleukin-6, and tumor necrosis factor alpha, in the tear film. Dietary intake of omega-3 fatty acids and the ratio of their consumption to that of omega-6 fatty acids affects the overall amount of inflammatory activity in the body. Research has found women with a higher dietary intake of omega-3 fatty acids have a lower prevalence of DES, including a 68% lower prevalence in women who consume at least five to six servings per week compared with the women who consumed one or fewer servings per week of tuna fish, one of the largest contributors of omega-3 fatty acids in the typical American diet¹.

The retina may require omega-3 fatty acids to remain physiologically intact. The retina concentrates omega-3 fatty acids, believed to be required for maintaining photoreceptor membrane fluidity and retinal integrity. Thus fish oils, specifically

omega-3, and very long chain polyunsaturated fatty acids, may be associated with the decrease or prevention of age-related maculopathy (ARM) outside of their anti-inflammatory, anti-atherosclerotic, and anti-thrombotic effects³. The Age-Related Eye Disease Study (AREDS) report number 20 found dietary total omega-3 fatty acid intake was inversely associated with neovascular age related macular degeneration (AMD). Higher fish consumption was also inversely associated with neovascular AMD⁴. A study of male twins found more frequent fish intake and higher levels of omega-3 fatty acid intake reduced risk of AMD even after adjustment for other risk factors. The protective effect of long chain polyunsaturated omega-3 fatty acid intake was seen only when linoleic acid intake (an omega-6 fatty acid) was below the median². The National Eye Institute concluded in 2005 that there is consistent evidence to suggest that omega-3 fatty acids may act in a protective role against ischemia, light, oxygen, inflammatory, and age

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Healthy Eyes

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associated pathology on the vascular and neural retina⁵.

Research supports the need to maintain a healthy ratio between omega-6 and omega-3 fatty acids for prevention of disease. The ideal omega-6/omega-3 ratio is 3:1 or 4:1. However, the average American's diet has an omega-6/omega-3 ratio that ranges from 10:1 to 50:1. This imbalance is attributed to a diet rich in processed foods containing or cooked in vegetable oils, which have previously shown to increase the risk of AMD².

Omega-3 supplementation has many potential health benefits to our patients. Many suffer daily with discomfort from DES and get no relief with topical medications. Macular degeneration is stealing sight from people on a daily basis with no known cure. Treatment is aimed at slowing progression with little hope of vision recovery. Omega-3 supplementation is a simple way we can help our patients feel more comfortable, as well as provide protection against future disease processes.

Our guest columnist, Thomas Anderson, OD, is co-owner of Smithville Eye Center in Smithville, MO. To reach Dr. Anderson, please send e-mail to info@cardiotabs.com.

References:

- 1.) Miljanovic, B et al. Relation between n-3 and n-6 fatty acids and clinically diagnosed dry eye syndrome in women. *Am J Clin Nutr* 2005;82:887-93.
- 2.) Seddon JM, George S, Rosener B. Cigarette smoking, fish consumption, omega-3 fatty acid intake, and associations with age-related macular degeneration. *Arch ophthalmol/vol124*, July 2006.
- 3.) Heuberger RA, Mares-Perlman, Klein R, et al. Relationship of dietary fat to age-related maculopathy in the third national health and nutrition examination survey.

Arch ophthalmol/vol119 Dec 2001.

4.) SanGiovanni JP, Chew EY, Clemons TE et al. The relationship of dietary lipid intake and age-related macular degeneration in a case control study. *Arch of Ophthalmol vol 125 no.5*, May 2007.

5.) SanGiovanni JP, Chew EY. The role of omega-3 long chain polyunsaturated fatty acids in health and diseases of the retina. *Prog retin eye res.* 2005.

CARDIOTABS NEWS

Allscripts Formulary

CardioTabs products were recently added to Medi-Span's fully integrated electronic drug data and clinical information database. This means that if you are using Allscripts or a similar service, ordering CardioTabs for your patients just got even easier.

Where to Find Us

CardioTabs representatives will be exhibiting at the following fall conferences. Please visit our booths to see what's new and get your free samples:

American Osteopathic Association booth # 1017; September 30-October 2; San Diego, CA

FNCE American Dietetic Association booth # 1356; September 30-October 2; Philadelphia, PA

Scientific Sessions American Heart Association booth # 2722; November 4-6; Orlando, FL

Do you know of an event where you think we should be exhibiting? Let us know. Contact us at info@cardiotabs.com.

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VITAMIN "D" FICIENCIES

by Becky K. Captain, ARNP

Evidence regarding Vitamin D and its benefits has exploded in recent years. Not just regarding bone health, but in regards to muscle strength, immunity, diabetes, insulin resistance, periodontal disease, and various cancers. For millenia, humans have relied on the sun's ultraviolet rays to stimulate the production of Vitamin D in our bodies. Today, with our indoor lifestyles, and modern diet, most of us are getting too little Vitamin D.

What are the Health Benefits of Vitamin D?

Osteoporosis Prevention

Vitamin D deficiency can be a contributing factor to osteoporosis. Without sufficient Vitamin D, calcium absorption cannot be maximized. Vitamin D supplementation has been demonstrated to slow bone loss and reduce fracture, particularly when taken with calcium.

Muscle Strength

Muscle tissue has receptors specifically designed to accept Vitamin D, which suggest the vitamin must have a key role in muscle function. When researchers gave Vitamin D to older women, they saw an increase in protein synthesis, which results in an increase in muscle growth and size. Older people with higher blood levels of Vitamin D do better on tests that require muscle strength and balance.

Immune System Boost

Immune system cells (macrophages) have the equipment to make the active form of Vitamin D, which gets the cells busy making antibodies that

fight bacteria. If a person is deficient in Vitamin D, this can't happen. Researchers studied Vitamin D levels in 150 US military personnel with multiple sclerosis (MS) and looked at approximately 300 military personnel without MS. The samples were taken on average five years before the disease was diagnosed. Among whites, those with the highest Vitamin D levels had 62% lower risk of MS than those with the lowest levels of Vitamin D. Other autoimmune disorders possibly triggered at least in part by Vitamin D deficiency include rheumatoid and osteoarthritis.

Periodontal Disease Prevention

People with periodontal disease have an increased risk of heart disease. It's caused by chronic inflammation, which leads to receding gums and heart disease. Several studies have seen a link between low Vitamin D levels and periodontal disease. In one trial, older people who were given 700 IU of Vitamin D daily and 500 mg of Calcium daily for three years had 60% less tooth loss than similar people who got placebo.

Insulin Resistance & Diabetes Prevention

The link between diabetes/insulin resistance and Vitamin D is intriguing. A recent study looked at a nationally representative sample of the US

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Vitamin "D" deficiencies
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population and found 75% lower risk of diabetes in non-Hispanic whites with the highest blood levels of Vitamin D than those with the lowest levels of Vitamin D. It is uncertain if diabetes causes low Vitamin D levels or if low Vitamin D levels cause diabetes and insulin resistance. Some research suggests Vitamin D promotes insulin secretion from the pancreas and Vitamin D may improve insulin resistance.

Cancer Prevention

Vitamin D receptors have been identified in tissues such as breast and prostate, prompting theories that Vitamin D may play a role in cancer prevention. Researchers at the American Cancer Society followed more than 68,000 women in the Cancer Prevention Study. After a decade, those who got more Vitamin D or ate more dairy foods had a lower risk of estrogen-positive breast cancer, but only if they lived in the northern half of the country which gets little or no ultraviolet light from the sun in the winter. The women who lived in the southern states presumably got enough Vitamin D from the sun's UV light year round. We still need more data before concluding Vitamin D can prevent some cancers, but studies such as this are encouraging.

Hypertension

Lower levels of Vitamin D may play a role in the development of high blood pressure. Blood pressure is often elevated in winter months when one has the lowest exposure to Vitamin D via sunlight. In one study where patients were treated with ultraviolet light three times a week for six weeks, Vitamin D levels increased by 162% and blood pressure fell significantly. We still need larger trials before this correlation is definitive.

Screening for Vitamin D Deficiencies

As you can see, it is important that we assess our patients for Vitamin D deficiencies. In the

Preventive Clinic, where I work, I began screening for Vitamin D levels over the past year. It is rare that I get a test result within the normal range. In fact I have seen several Vitamin D levels severely low... 15-25 range. Often I will find by increasing the patients Vitamin D levels, their muscle aches and pains resolve and they have more energy. Last winter I made a point of screening some of my patients who are construction workers. They get lots of Vitamin D from working in the sun in the summer months; but, hardly any during the winter. I often recommended Vitamin D supplements to the construction workers through the winter months or a multiple vitamin that contains 1000 IU of Vitamin D, like the CardioDaily multivitamin. If your patients are having symptoms such as muscle and joint aches, or they do not get much sunlight it is important that we screen for Vitamin D levels. It is a simple blood test that could change how your patients feel and function on a daily basis.

How Much Vitamin D is enough?

With the latest compelling data regarding the common occurrence of Vitamin D deficiency and the benefits of supplementation most experts agree it's time to increase Vitamin D intake. Recent studies suggest 800 IU - 1000 IU of Vitamin D daily is optimal...and we may need more. Because of the link between excessive sun exposure and skin it's difficult to recommend heavy doses of sun-tanning. On the other hand five to 15 minutes of unprotected sun exposure per day is probably reasonable and safe and will help to keep Vitamin D levels up in the normal range. Another logical, safe, and easy way to make sure your patients are getting enough Vitamin D is to recommend a daily supplement of 800 IU – 1000 IU. Because of this evolving data, the CardioDaily multivitamin contains 1,000 IU of Vitamin D as well as optimal amounts of other essential nutrients for overall and especially cardiovascular health. CardioDaily is an excellent choice for a daily multivitamin/mineral supplement for your patients.

CINNAMON: THE RESEARCH IS HOT

by Becky K. Captain, ARNP

Health care providers are getting excited about the research being done with cinnamon. Would you believe a mere teaspoon of cinnamon contains approximately 28 mg of calcium, almost 2 mg of iron, over a gram of fiber and quite a lot of vitamins C, K and manganese? It's true.

Cinnamon in the past has been used for indigestion, gas, bloating and stomach upset. Modern medical research has revealed results that cinnamon has a mild anti-inflammatory effect and has anti-fungal properties as well.

So what's the LATEST science about this ancient spice that has been a favorite flavor for over 4,000 years? Cinnamon has shown great promise in clinical studies in improving Type 2 Diabetes and Insulin Resistance. There have been several trials which show improved glucose control and

improved insulin sensitivity in people who take a gram or ½ teaspoon of cinnamon per day. By improving insulin resistance we can help patients with lowering blood sugar, improve weight control and decrease risk for heart disease. Additionally, studies are showing that cinnamon is able to reduce triglycerides, LDL and total cholesterol. One particular study revealed total cholesterol reduction of 12-26%, LDL reduction of 7-27% and triglyceride reduction of 23-30%.

Cinnamon's unique health promoting properties come from certain components found in its bark. Cardiotabs new product CardioGT (glucose tolerance) contains Cinnulin PF which is a natural and purified extract from cinnamon bark and is responsible for the health benefits conferred by cinnamon. In patients with insulin resistance such as people who are overweight or obese, or those with diabetes or prediabetes, or with high triglycerides, I recommend exercise, a heart healthy diet and CardioGT. These steps will help my patients to avoid diabetes and its complications, as well as maintain a healthy cardiovascular system.

CardioGT is the newest product in CardioTabs line of high-quality nutritional supplements. Research shows that in addition to cinnamon, other ingredients in CardioGT can impact metabolism and blood glucose levels:

Alpha Lipoic Acid (ALA) is sometimes referred to as the antioxidant of antioxidants and is an important cofactor for several enzymes involved in carbohydrate metabolism.

ChromeMate is a highly bioavailable form of chromium, which has been shown to improve blood glucose levels.

The antioxidant, CoQ10 is a cofactor in many enzymatic pathways, especially those involving energy production. Deficiencies are associated with advanced age, statin use, and diabetes.

CardioGT also contains magnesium citrate and vanadium. Deficiencies of either are common among diabetics.

Complimentary sample packages of CardioGT are available to clinicians. Please call 1-800-811-1007 or send email to info@cardiotabs.com to request yours today.

