

Chapter 1 : Nutrition and Eye Health – How Do Antioxidants Benefit Your Eye Health? | 02x1

Eye Benefits Of Vitamins And Micronutrients. The following vitamins, minerals and other nutrients have been shown to be essential for good vision and may protect your eyes from sight-robbing conditions and diseases.

He pointed out that our eyes are subject to radiation from light and that in the act of seeing they use a great deal of energy. As we know, in order to live we produce energy by using oxygen; this process produces many harmful free radicals, which then need to be quenched. Consequently, the overwhelming requirements for the health of our eyes are to protect them from the most dangerous forms of radiation and to have a sufficient supply of antioxidants to react with and destroy the free radicals. First, his general recommendations: This is an antioxidant that has been found to be extremely protective for our eyes. Sardi stated that the level of glutathione in the eye is the most important measure for the health of the eye. Unfortunately, it is difficult to measure directly. Glutathione is composed of three amino acids: For our bodies to form it from the proteins that we ingest, we must be sure to have good sources of sulfur. He suggested garlic, onion, asparagus, and eggs – in all cases, raised without pesticides. In regard to eggs, he told us about chickens that ate purslane, which gave their eggs high levels of omega-3 fatty acids that are protective for our nerves. Sardi emphasized glutathione as especially important for the health of our eyes. However, many other antioxidants are important. All fruits and vegetables contain carotenoids, which are powerful antioxidants. A particular carotenoid, lutein, and its isomer meaning the same molecular formula with different structure zeaxanthin are "the only two carotenoids found in the eye, [specifically] in the region of the retina called the macula and also in the lens of the eye. Exercise – not only for increasing circulation, which is obviously essential for the health of our eyes, but also for increasing our "good" cholesterol, our high-density lipoproteins HDL, which are important for transporting the lutein that we ingest from our gut to our eyes. Sardi stated that beta-carotene and lutein compete for transport, so, if we are low in HDL and high in beta-carotene, which is a nutrient added to many supplements, we may have reduced lutein for our eyes. Weak capillaries can exacerbate many eye problems. Vitamin C tightens capillaries and is essential for our retinas also for our lungs and kidneys. To enhance the action of vitamin C we need bioflavonoids. They are tart and dry. He mentioned pomegranate and lemon rind. Sardi pointed out that during the nine months of pregnancy the capillaries are weak in order to get nutrients to the child. Also, for wound healing there is a temporary capillary weakness. Adrenal hormones, which give us a sudden burst of energy, will also temporarily weaken the capillaries. With stress, this weakness can become chronic. We need to have excellent circulation in the tiny capillaries of the retina. Any condition such as clots, arteriosclerosis, thick blood, blood vessel spasms, or inflammation can cause major injury. For a strong heart beat he suggested coenzyme Q10, L-carnitine, and ginger. He also suggested ginger, as well as the bioflavonoid quercetin high in red onions, for reducing inflammation. Blood vessel spasms can be caused by allergies. Calcium is involved in blood coagulation and is balanced naturally by magnesium in the diet. Sardi pointed out that many people are low in magnesium. Protect the nerves and reduce inflammation with fish oils. DHA docosahexaenoic acid is essential for vision, as well as intelligence for the fetus and child. He suggested going to fish oils with higher DHA than EPA eicosapentaenoic acid since the two fatty acids compete in metabolic pathways. The outer layer of the tears that protect our eyes is composed of oils, which reduce evaporation. The essential omega-6 fatty acid GLA gamma linolenic acid, which is high in borage oil, can be protective. In his books Sardi touches on thirty-three eye diseases, but three are the most prevalent. A cataract develops when the clear crystalline lens of the eye gradually develops some fogging. Exposure to ultraviolet light both A and B hastens the dimness. Cataracts are more frequent in people who live in climates near the equator and in people who are frequently outdoors. Sardi is extremely critical of most sun glasses, those which do not block all ultraviolet light. Also, we hear about skin cancer from our manmade depletion of the protective ozone layer in the atmosphere. Sardi points out that injury to our eyes is even more severe than that to our skin. Sardi lists twenty-two risk factors for cataracts. Among them are ultraviolet sun rays; infrared heat rays; photosensitizing medications; smoking, alcohol, and other toxins, such as mercury or ethylene oxide gas; high sugar levels diabetic cataract; lack of an enzyme to metabolize a milk product galactose cataract;

undernutrition; dehydration; electric shock; and trauma. For preventive measures he emphasizes antioxidants including: Activity and enjoyment of life can be tremendously enhanced by this operation. He points out that the new lens often includes some UV-blocking. However, removing the cloudy lens reduces the protection of the retina from UV-light, so he recommends wearing one-hundred-percent ultraviolet-blocking goggles.

Macular degeneration Macular degeneration is the gradual deterioration of the central area of the retina, the macula, which gives us our central, focused vision, needed for reading, for driving, and for recognizing people. Usually, macular degeneration progresses slowly. It is basically a blood vessel disease of the retina, exacerbated by rays from the sun and by reduced levels of antioxidants. The lens focuses light onto the macula. Sardi points out that if people look directly at the sun, the rays will destroy retina cells. UV A and B can injure the retina. However, blue-violet rays "penetrate deeper into eye tissues and promote garbage deposits drusen ," which weaken the retina and which are the diagnostic sign for macular degeneration. In his lecture Sardi suggested that we could ask our ophthalmologists whether or not any drusen are on our retinas. He advised that people with macular degeneration and those wishing to avoid it should get sunglasses that block UV A and B and also blue-violet light. These glasses will change light perception; for example, a blue sky will appear gray. Melanin pigment in our retinas protects our eyes from sunlight damage. From youth, the habitual use of wide brimmed hats and wrap-around sun goggles is advised. Good natural sources are cherries, blueberries, citrus fruits, buckwheat, and red onions. Melanin is protective for us, and zinc is needed for its formation. Bioflavonoids not only are fine antioxidants, they also help prevent capillary-wall leakage. Quercetin from red onions is particularly potent in blocking the spoilage lipid peroxidation by light of the polyunsaturated fats that are in the membranes of retinal cells. This membrane breakdown is a basic cause of macular degeneration. Drusen appear when there is cell breakdown and the circulatory system is unable to remove the waste. Efforts to improve circulation and cell-wall integrity are mandatory. For nerve conduction, certain fatty acids—especially the long-chain omega-3s are essential; they must be obtained in our diet. As Professor Michael Crawford pointed out to us on April 9, , DHA docosahexaenoic acid—a very-long-chain omega-3 fatty acid is essential for our eyes and for our intelligence. It is so necessary that a pregnant and nursing mother naturally depletes her own supply to give to the growing child. Sardi states that larger doses of antioxidant nutrients are needed to prevent or to help with macular degeneration than with cataracts. The cones, which are specialized bright-light and color receptors on many retinal cells, take up to nine months to repair, so that any person with macular degeneration who initiates a program of nutrients, exercise, and sunlight-protection should continue at least that long before expecting improvement.

Glaucoma Glaucoma involves optic nerve damage. There are many different kinds. In the most common form there is high fluid pressure within the eye. Usually no pain is involved, so that the person is completely unaware of the problem. Consequently, it is extremely important to have regular eye examinations from an ophthalmologist, who has the instruments for testing fluid pressure within the eye. Then, there are eye drops and other measures that can reduce the pressure. Blood tests on glaucoma patients showed that they were much lower in thiamine vitamin B1 than other patients who did not have glaucoma. Both groups of patients were receiving adequate amounts of thiamine in their food, so the author of the research concluded that the glaucoma patients probably did not absorb the vitamin well. A severe deficiency of thiamine results in beriberi, which includes optic nerve disease. Stress can exacerbate glaucoma. Anxiety increases the production of adrenaline from the adrenal glands. Among other symptoms, adrenaline increases blood pressure and heart rate, arrests digestion, results in dryness of the mouth and throat, and produces muscular tension. An acute emotional state can increase the size of the pupil and cause the eyes to bulge and water. As the pupils dilate, the fluid drains become smaller. After age forty or so, emotional upset may trigger the dilation of the pupil and a secretion of adrenaline that can set off an acute glaucoma episode. Even one session can reduce eye fluid pressure. Both are excellent forms of omega-3 oils. We must remember to ingest extra antioxidants to protect these highly unsaturated oils from oxidation. Allergy can be a problem in glaucoma. Histamine released in an allergic reaction dilates small blood vessels and can congest the fluid cleanup around the meshwork of cells in the front of our eyes. Histamine may also restrict the outflow of fluid from the eyes. Sardi cites an interesting case from the *Annals of Allergy*: In one year-old woman who had eye pressure of 26 in her right eye and 50 in her left eye, the side

of her head on which she slept, the offending allergic agent was found to be feathers. The removal of a feather pillow returned eye pressure to normal. Summary In his four books on Nutrition and the Eyes, Sardi emphasizes physician care.

Chapter 2 : Nutrition and the eye - National Eye Health Week

Learn how diet and nutrition play an important role in the health of your eyes in this series of informative articles written by experts in vision and eye health.

WhatsApp Your eyes are marvelous organs. Knowing how to care for your eyes can help to prevent cataracts, a clouding of the lens in your eyes that comes with aging. The best care you can give to your eyes is by helping your body to produce more of its master antioxidant Glutathione. One study from the Journal of Ocular Pharmacology and Therapeutics showed that the cornea, lens, and retina area of the eye are especially sensitive to loss of antioxidant Glutathione, GSH. All cells in our bodies use Glutathione. Your eyes get exposed to a lot of oxidative stress and damage from UV radiation of sunlight. Glutathione is used directly by the lens of your eyes to deal with this daily stress. Then let us see how the Antioxidant Glutathione can be the best nutrition for your eye health care. Major parts and functions of the eye: Your eye is like a very advanced camera. The function of eyes is to enable us to see things clearly at various distances and under various light conditions. Different parts of your eyes work together in a complex way to achieve this important function. The following components of your eyes are especially susceptible to oxidative damage from sunlight. Cornea The cornea is the transparent front part of eye that covers the iris and pupil. The cornea passes light into the eye and helps your eye to focus. Iris The iris is the colored part of your eye. By making pupil larger or smaller, the iris helps to control the amount of light that enters the eye. Pupil The pupil is the dark opening in the middle of the iris. By changing size in response to the amount of light present, the pupil controls the amount of light that enters your eye. Lens The lens is the transparent part behind the iris. It helps focus light rays onto the retina. Retina The retina is the light sensitive, inner nerve layer of your eye. The retina is made up of light-sensitive cells known as cones and rods. These cells convert light into nerve signals, which are passed to your brain. Macula The macula is an oval yellow area in the retina. Macula contains the highest concentration of the special light sensitive cells called cones. The macula enables us to see small, fine details clearly. Antioxidant Glutathione for Eye Health: Glutathione detoxifies the potentially damaging oxidants with which our eyes come into contact. The study also shows that the level of GSH in the nucleus of the lens is particularly low for older people. If preventive eye care is not taken, prolonged oxidizing damage can lead to cataracts. If you are older than 20 years old, your body starts to produce less Antioxidant Glutathione each year as you age. You will come to appreciate how important Gluathione is for your eye health care. They found that antioxidant vitamin E, vitamin C, and alpha lipoic acid are effective in fighting against age-related retinal and macular degeneration. In that eye health study, Dr. Along with other essential nutrients, vitamin C and alpha lipoic acid can work synergistically to help your body improve your Glutathione level for eye health.

Chapter 3 : Nutrition for Vision - Best food for your Eyes

Nutrition and eye conditions A balanced diet is important for our overall health and therefore may also be helping to keep our eyes as healthy as they can be. How your diet may affect your eye condition depends a lot on the eye condition you have been diagnosed with.

Please live a healthy life; medicine is an imperfect science. For 25 years I relied on doctors for my health, because modern medicine leads us to believe that we are born with a deficiency of drugs and an excess of body parts. For the best nutritional value, your diet should include lots of whole, fresh, ripe, raw, organic foods, preferably grown in mineral rich soils. Rather than spending time and money on supplements, spend a little time studying which nutrients are in which foods, or what the body requires to make its own supply. Eating fresh organic, if possible home-grown, foods is most beneficial to your health. Best food for your eyes: You may be surprised that the number one food for the eyes is actually kale. The following is a list of foods that promote eye-health. Dark green leafy vegetables: Read this article about eating leafy greens to see clearly. Most berries, especially gojiberries, bilberries and blueberries. For some guidance regarding what nutrients are found in what foods, check this FDA website. If you do wish to try supplements, Vision Works USA sells a large range of products for most vision conditions and they will ship worldwide. Vision supplements can be useful in helping the body and eyes get back into balance after a deficiency occurs. However, for the long term it is best to assess how the deficiency came about, address that problem, and implement appropriate changes in diet or lifestyle so supplements are no longer needed. There simply is no better way to get all the nutrients you need than through delicious healthy whole foods. Cautionary note about vision supplements! Both are nutrients the eyes need, yet they are far more beneficial for you when they come from your food, and can actually be detrimental to your health in the form of supplements. An excessive intake of Vitamin A and beta carotene is a potential health problem due to an increased risk of cancer and a contributor to osteoporosis. Vitamin C is a common supplement and it too, in mega-doses such as 10,mg, can lead to visual problems, especially causing floaters and increasing the risk of vitreous detachment, retinal detachment, macular pucker, cellophane maculopathy, cataracts and macular degeneration. Supplements can easily provide too much of a good thing, thus turning it into toxic excess. Besides the already mentioned issue with excess vitamins A and C, this is also true for vitamins B-2 and E and for copper, zinc, iron and selenium. Obtaining nutrients from your food typically makes it much harder or impossible to accidentally overdose, yet there is one exception to this general rule: Limit your intake to just one a day to be safe. Your goal is to get sufficient amounts of all healthful nutrients, in their proper balance, without overdosing on any one. In all health issues, use common sense, and gather as much information as you can Modern medicine leads us to believe that we are born with a deficiency of drugs and an excess of body parts Coffee, soft drinks, regular tea and any caffeinated herb tea. Maple sugar and coconut sugar are only marginally better; still far from healthy. Raw honey can be a substitute except for babies in sensible small quantities. Fruit sugar, when listed as a separate ingredient, is also a refined sugar, avoid it! Instead satisfy your sweet tooth by eating fresh whole fruits which provide natural sugars that the body can easily deal with because they come with an impressive array of vitamins, minerals and fibers. Alcohol destroys many vital nutrients; drinkers require a higher dosage of vitamins. Although I believe that good nutrition can play a big role in overcoming eye-diseases, it is important to know that most symptoms can be relieved with natural vision habits and relaxation, as those increase circulation to the eyes which is key in any healing process. Without good vision habits, it will be more challenging to overcome any eye disease when making changes in nutrition alone. Nutrients required for healthy vision. Many nutrients are known to be involved in the healthy functioning of the eyes: Minerals and trace nutrients: Good nutrition is important for healthy vision, but can not stand on its own. The main depletion factors of vital nutrients from the body are: Stress, Alcohol, Antibiotics and Drugs both medical and recreational drugs, including cigarettes. Other problem causers tend to be: Caffeinated beverages, soft drinks, refined sugars, table salt, refined grains, fried foods, hydrogenated oils, dairy products, MSG, artificial colors, flavorings and preservatives. General toxicity is not a deficiency of nutrients but an excess of harmful substances, either from

a less than optimal diet, or from environmental influences such as bad air or exposure to chemicals.

Chapter 4 : Nutrition for Healthy Eyes - www.nxgvision.com

Nutrition plays a very important role in the health of the entire eye. From the front of the eye to the back, various nutrients affect the comfort of the eye and caliber of the vision. Starting with ocular surface, the quality of the tear film can have a major effect on one's vision.

Written by Makayla Meixner, RD on July 25, Your eyes are complex organs that need many different vitamins and nutrients to function properly. Common conditions, such as diabetic retinopathy, age-related macular degeneration, glaucoma and cataracts, can impact your eyes. Though a variety of different factors causes these conditions, nutrition seems to have an influence on all of them – at least in part. Here are 9 key vitamins and nutrients that help maintain eye health.

Vitamin A Vitamin A plays a crucial role in vision by maintaining a clear cornea, which is the outside covering of your eye. This vitamin is also a component of rhodopsin, a protein in your eyes that allows you to see in low light conditions 1. Vitamin A deficiency is rare in developed countries, but if unaddressed can lead to a serious condition called xerophthalmia. Xerophthalmia is a progressive eye disease which begins with night blindness. If vitamin A deficiency continues, your tear ducts and eyes can dry out. Eventually, your cornea softens, resulting in irreversible blindness 1, 2. Vitamin A may also help protect against other eye afflictions. Some studies suggest that diets high in vitamin A may be associated with a reduced risk of cataracts and age-related macular degeneration AMD 3, 4, 5, 6. For general eye health, vitamin-A-rich foods are recommended over supplements. Sweet potatoes are an excellent source, as are leafy green vegetables, pumpkins and bell peppers 1. Summary Severe vitamin A deficiency can lead to xerophthalmia, a serious condition that can result in blindness. In some studies, high amounts of vitamin A intake were associated with a reduced risk of cataracts and age-related macular degeneration.

Vitamin E Many eye conditions are believed to be associated with oxidative stress, which is an imbalance between antioxidants and free radicals in your body 7, 8. Vitamin E is a potent antioxidant that helps protect your cells – including your eye cells – from damage by free radicals, which are harmful, unstable molecules. In addition, some studies suggest that diets high in vitamin E may help prevent age-related cataracts. However, more research is needed as some studies show no association between vitamin E and this condition. Nonetheless, a diet that includes adequate vitamin E is recommended to maintain proper eye health. Some vitamin-E-rich options include nuts, seeds and cooking oils. Salmon, avocado and leafy green vegetables are also good sources. Summary Vitamin E, an antioxidant, may help protect your eyes against damaging free radicals.

Vitamin C Like vitamin E, vitamin C is a powerful antioxidant that may protect your eyes against damaging free radicals. In addition, vitamin C is required to make collagen, a protein that provides structure to your eye, particularly in the cornea and sclera. Several observational studies suggest that vitamin C may help lower your risk of developing cataracts, a condition that causes your eye to become cloudy and impairs vision. Citrus and tropical fruits, bell peppers, broccoli and kale contain particularly high amounts of vitamin C, making them great options to boost your daily intake. Summary Vitamin C forms collagen, a protein that provides structure to your eyes. Observational studies suggest that this vitamin may protect against cataracts and help prevent the progression of AMD. This combination of vitamins can lower levels of homocysteine, a protein in your body that may be associated with inflammation and an increased risk of developing AMD. However, more research is needed to confirm the benefits of these supplements.

Riboflavin Another B vitamin studied in relation to eye health is riboflavin vitamin B2. As an antioxidant, riboflavin has the potential to reduce oxidative stress in your body, including your eyes. Interestingly, many individuals with cataracts also are deficient in this antioxidant 19, Health authorities recommend consuming 1. Some examples include oats, milk, yogurt, beef and fortified cereals. Summary As an antioxidant, riboflavin may protect against damaging free radicals in your eyes. Diets high in riboflavin have been associated with a reduced risk of developing cataracts.

Niacin The main function of niacin vitamin B3 in your body is to help convert food into energy. It can also act as an antioxidant. Recently, studies have suggested that niacin may play a role in the prevention of glaucoma, a condition in which the optic nerve of your eye becomes damaged. For example, an observational study on the nutrient consumption of Korean adults and their risk for glaucoma found an association between low dietary

intake of niacin and this condition. In addition, an animal study showed that high doses of niacin supplements were effective in preventing glaucoma. Overall, more research on the potential link between niacin and glaucoma is needed. Supplements should be used with caution. When consumed in high amounts of 1. However, there is no evidence that consuming foods naturally high in niacin has any adverse effects. Some food sources include beef, poultry, fish, mushrooms, peanuts and legumes. Summary Studies suggest that niacin may prevent the development of glaucoma, but supplements should be used with caution. Lutein and Zeaxanthin Lutein and zeaxanthin are part of the carotenoid family, a group of beneficial compounds synthesized by plants. Both of these carotenoids can be found in the macula and retina of your eyes, where they help filter potentially harmful blue light, thus protecting your eyes from damage. Several studies suggest that these plant compounds may prevent cataracts and prevent or slow the progression of AMD 29. A randomized, controlled study found potential benefits of lutein for people with cataracts. Over two years, those taking supplements containing 15 mg of lutein three times per week experienced improvements in vision. Recommended daily intakes and safe supplemental doses have not been established for these compounds. However, up to 20 mg of lutein per day for 6 months has been used in studies without adverse effects. Nonetheless, supplements may not be necessary. As little as 6 mg of lutein and zeaxanthin may yield benefits, and a diet rich in fruits and vegetables naturally provides this amount. Cooked spinach, kale and collard greens are particularly high in these carotenoids. Summary Lutein and zeaxanthin are beneficial plant compounds that may help prevent AMD and cataracts. No recommended daily intakes have been established, but a diet high in fruits and vegetables can provide plenty of these nutrients. Omega-3 Fatty Acids Omega-3 fatty acids are a type of polyunsaturated fat. The cell membranes of your retina contain a high concentration of DHA, a particular type of omega-3. Besides helping form the cells of your eye, omega-3 fats have anti-inflammatory properties which may play a role in the prevention of diabetic retinopathy DR. A review of 31 studies suggested that diets high in oily fish such as the traditional Mediterranean diet may protect against DR. Although these findings need to be corroborated with more research, they imply that fatty acids may be responsible. Omega-3 fats may also benefit individuals with dry eye disease by helping them produce more tears. With this condition, a lack of tears causes dryness, discomfort and occasional blurry vision 33, 35. To increase omega-3 fatty acids in your diet, include rich sources such as fish, flaxseed, chia seeds, soy and nuts. Omega-3s can also be found in cooking oils such as canola and olive oil. Summary Omega-3 fatty acids have anti-inflammatory properties and may help prevent diabetic retinopathy DR when included in your diet. These fats may also aid those with dry eye disease. Thiamine, or vitamin B1, plays a role in proper cell function and converting food into energy. This study also indicates that protein, vitamin A, niacin and riboflavin may protect against cataracts. A clinical study found that mg of thiamine taken three times daily reduced the amount of albumin in urine an indication of DR in type 2 diabetes. Food sources of thiamine include whole grains, meat and fish. In addition, thiamine is often added to foods like breakfast cereals, bread and pasta. Summary Diets high in thiamine have been associated with a reduced risk of developing cataracts. Supplements have also been proposed as a way to treat DR. Research suggests that certain vitamins and nutrients may help prevent or slow the progression of several different eye conditions. However, eating a balanced diet rich in fruits, vegetables, whole grains, protein and healthy fats will provide you with all the nutrients your eyes and the rest of your body need for optimal health.

Chapter 5 : Nutrition and the Eye - Eye Health - FLEI

Eyesmart: "Diet and Nutrition," "Four Fantastic Foods to Keep Your Eyes Healthy," "Feast Your Eyes on Eye Healthy Foods This Summer," "Study Finds an Improved AMD Supplement Formula."

Nutrition and The Eyes Understanding the Correlation Between Nutrition and Eye Health We all know that eating a balanced diet can improve our overall health, but have you ever realized just how much what we eat can affect our vision? In fact, diets that are high in processed foods, white flour, caffeine, and added sugar can lead to poor vision over time. By eating a more balanced diet, you may be able to prevent some eye diseases from developing or slow the progression of an existing condition. For example, Vitamin B can help lessen your risk of developing macular degeneration by reducing inflammation while antioxidants and zinc may slow the progression of the disease. Both Vitamin C and Vitamin E can help reduce the risk of cataracts. Other naturally occurring nutrients such as bioflavonoids can help your body absorb and use vitamins. To make sure your eyes are receiving the nutrients they need, eat a varied diet including lean proteins, whole grains, fruits, and vegetables. Remove as many processed ingredients and added sugars as possible, and watch out for hidden ingredients on food labels. For an easy way to introduce more nutrients into your diet, start by ordering a side salad with your meal at a restaurant or making your own at home to accompany the main dish. Not all greens are created equal, so make sure yours are nutrient-rich and not just filler. You may want to consider taking vitamins or other supplements to help best support eye health. As always, talk to your primary doctor before starting a new diet plan or purchasing supplements of any kind. Learn More through an Audio Lecture

Are you eager to learn more about the connection between nutrition and eye health? It is easy to talk about the general correlation and benefits, but you may be wondering exactly how improving your diet could impact your vision. Stuart Richer, OD, Ph. Richer often prescribes nutrition in the intervention of numerous eye conditions, including cataracts, dry eye, age-related macular degeneration, and low-tension glaucoma. His dedicated research and straightforward lectures help low vision patients understand exactly how and why different nutrients affect vision. Below is a link to an audio clip of one of Dr. Putting together meals on your own makes it easier to consume a balanced diet and avoid unwanted additives. However, the prospect of cooking can be daunting for anyone with low vision problems. Thankfully, working in the kitchen is getting easier with the help of talking kitchen products. Utilize Talking Kitchen Products For example, there are now talking microwave ovens that work as well as traditional ovens but may be much easier for those with low vision to use. These ovens have adjustable power levels and cook times and come with a built-in kitchen timer. The buttons are raised and easy to locate, and the unit comes with both written and audio instructions. Plus, the talking feature will help ensure that you are not setting the cook time for too long or too little. They can be found here along with many other talking products for the home.

Chapter 6 : Diet and Nutrition - American Academy of Ophthalmology

Nutrition and the Eyes Eye health and vision can be significantly impacted upon by the diet and nutrients a person intakes every day. Many eye diseases are a result of inflammation and deficiencies in certain vitamins, minerals and antioxidants.

Published May 31, Nutrition and the Eye: How and Why to Fortify Research shows that nutrition can defend the eye from many ocular and systemic conditions. In the past few years, we Americans have increased our intake of vitamins and minerals to enhance our health. An impressive body of research clearly shows nutritional support can affect the development of eye conditions and that elderly persons have different metabolic needs that must be met by using nutritional supplements. Research on prevention and treatment of chronic degenerative diseases of aging such as cataract, macular degeneration, glaucoma and dry eyes constantly growing. The beneficial effect of nutrition on these conditions is strongly supported by peer-reviewed research. The AMA now recommends that all adults take multivitamins daily because studies have shown that the diets of most Americans are inadequate. It seems that the medical profession now recognizes that very few people actually get enough antioxidants and essential nutrients in their diet. Retinol pre-formed vitamin A is essential for wound healing and proper immune function. Retinol binds to the protein opsin in the rod cells to form the visual pigment rhodopsin visual purple. Vitamin A in the form of retinol also plays a central role in the development of the mucins of the tear film. The coenzyme activity of the B-complex vitamins is required for optimal metabolism of all foods. Furthermore, research strongly suggests that supplementation with vitamins B6, B12 and folate can help keep homocysteine levels within the normal range. Recent research suggests a strong relationship between elevated plasma homocysteine levels and exudative neovascular AMD. So, instruct patients to take a full complement of B-complex at the same time. More than a dozen carotenoids have been found in the blood, but only two specific xanthophyll carotenoids lutein and zeaxanthin accumulate in the fovea. The naturally dark golden-yellow pigments of these carotenoids filter out potentially phototoxic blue light and near-ultraviolet radiation from the macula. The generally accepted functions of these two dietary xanthophylls are to provide pigment to the macula and to foster antioxidant activity along with other job-specific antioxidants to protect the eye against singlet oxygen and peroxy radicals. Because zeaxanthin contains 11 double bonds, versus the 10 double bonds in lutein, it offers more powerful antioxidant protection than does lutein against phototoxic damage caused by blue and near-ultraviolet light radiation. Recent research estimates an approximate ratio of 5: Research suggests the zeaxanthin pigment in the central macula spreads outward to the periphery of the macula and to the other parts of the retina. Zeaxanthin and lutein are also found in the rod outer segments and retinal pigment epithelium cells where they may have multiple functions. These two carotenoids are less susceptible to oxidation by pro-oxidants than are hydrocarbon carotenoids such as beta-carotene and lycopene. This concept of more-is-better is a common misconception where vitamins and minerals are concerned. These manufacturers should very closely monitor the findings of these studies when developing formulations for patients who have visual concerns. A recent study suggests that vitamins C and E and supplemental zeaxanthin provide significant protection against photosensitized lipid peroxidation. Of all the carotenoids, lycopene has been shown to exhibit the highest physical quenching rate of singlet oxygen. Lycopene has very high antioxidant activity and exerts a protective effect against various diseases, including cataracts, aging of retinal pigment epithelial cells, prostate cancer and lower urinary tract symptoms in older men. Although lutein, zeaxanthin and their metabolites constitute the major carotenoids in human ocular tissues, lycopene also has been detected in high concentrations in the ciliary body and retinal pigment epithelium. Oxidative damage with the unregulated production of reactive oxygen species ROS has been implicated in a growing list of clinical disorders such as macular degeneration, cataracts, arteriosclerosis, rheumatoid arthritis, cancer, stroke, Parkinsons disease and Alzheimers disease. A recent clinical study suggests that a balanced combination of alpha-tocopherol, lipoic acid, coenzyme Q10, acetyl-L-carnitine and selenomethionine can successfully regulate production of ROS, as well as modulate apoptosis. From a clinical perspective, combining several

different antioxidant compounds in the composition of formulas likely offers a greater benefit than that provided by the use of a single compound or even formulas containing a limited spectrum of antioxidant compounds. Most manufacturers of multiple vitamins now include the full spectrum of minerals that are necessary for the utilization of most vitamins and phytochemical antioxidants. For example, long-term supplemental zinc can block absorption of copper, which is necessary for bone-marrow red cell production. In addition, the type of mineral compound makes a difference. Using zinc oxide requires an appropriate amount of copper oxide added to the formulation. The use of monomethionine zinc is the most bioavailable form of zinc and the only form that does not interfere with copper absorption. Excessive intake of supplemental zinc is detrimental to overall body health, including the health of the brain and the prostate. Balance is more important than individual micronutrients. In terms of biological and antioxidant activity, the impact on the oxidant-antioxidant balance should be expected to be greater if the formulas being used contain a wider spectrum of antioxidant compounds than with those that contain a limited number of antioxidant compounds. The protection provided by antioxidant therapy is likely to depend more on the number and diversity of antioxidants in the formulas than on the antioxidant efficacy of any single compound or ingredient. Every diet should be backed up with a full-spectrum supplement that further guarantees daily consumption of the vital nutrients that often are destroyed by commercial food production processes. Take the increase in cases of scurvy, for example. The eye reflects the health of the body, with a number of specific target areas. It is true that the typical American diet is overloaded with omega-6 linoleic acid LA from vegetable oils found in highly processed crackers, chips, cookies and cakes. Omega-6 oils oxidize too quickly and become pro-inflammatory. However, good health also depends on omega-6 gamma linolenic acid GLA, which is a downstream metabolite of omega-6 linoleic acid, and is found in sources such as black currant seed oil, borage oil and evening primrose oil. This compound is a necessary component in the downstream metabolism of omega-6 fatty acid to the series one anti-inflammatory prostaglandins PGE1s, which are associated with healthy mucosal tissue and healthy tear film. The human body cannot metabolize omega-3 fatty acids to these specific anti-inflammatory prostaglandins. Excessive intake of LA is unhealthy because it can promote inflammation if it is not properly metabolized. In contrast, omega-6 fatty acids that are successfully metabolized or those that have the metabolic advantage of containing GLA reduce inflammation after further metabolizing to dihomo-gamma-linolenic acid DGLA, which also blocks, when appropriate, the pro-inflammatory arachidonic acid AA conversion. Successful DGLA downstream metabolism of omega-6 to the anti-inflammatory PGE1 is secured by the omega-3 acids eicosapentaenoic acid [EPA] and docosahexaenoic acid [DHA], preferably from fish oil, which block arachidonic acid, if those particular omega-3 metabolites are present in the body. Adequate amounts of nutrient cofactors in the body including vitamins A, C and B6, magnesium, zinc, and gamma tocopherols stabilize both omega-6 and omega-3 fatty acids and enhance the delta desaturase enzymatic conversion of omega-6 fatty acid to the anti-inflammatory PGE1. They are particularly important for the patient who has dry eye because PGE1s from omega-6 interrupt the inflammatory loop associated with chronic dry eye syndrome. The PGE1s also increase the anti-inflammatory immunosuppressive effects of cyclosporine. The bottom line for optimal health: Everyone should avoid hydrogenated fats and eat a well-balanced diet that includes the currently recommended five to nine servings of fruits and vegetables a day whenever possible. Why recommend a supplement that only supports your patients eyes, when you can recommend one supplement that also slows the progression of all chronic degenerative diseases and supports the prevention of vascular disease, diabetes and cancer? This is truly the embodiment of primary-care practice. He is also an author, consultant and frequent lecturer on computer vision syndrome. Dietary supplement use by US adults: *Am J Epidemiol* Aug 15; 4: Supplement Business Report *Nutr Bus Jnl* Oct. 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Chapter 7 : The EYE SITE - Nutrition and the Eyes

Nutrition and the eye A poor diet can put your sight at risk. Yet, awareness of the link between diet and good eye health is low - a recent survey found sixty per cent of people living in the UK had no idea that what they eat can affect the health of their eyes.

Eye health goes hand-in-hand with general health, but there are a few nutrients that are especially important for the eyes. These nutrients help maintain eye function, protect the eyes against harmful light and reduce the development of age-related degenerative diseases. This article lists the main nutrients that will maximize your eye health, their dietary sources and potential benefits. Overview of Common Eye Diseases Your risk of developing an eye disease increases as you get older. The most common eye diseases include: A condition in which the eye becomes clouded. Age-related cataracts are a leading cause of vision impairment and blindness around the world. Associated with diabetes and a major cause of visual impairment and blindness, this condition develops when high blood sugar levels damage the blood vessels in the retina. A condition marked by insufficient tear fluid, which causes the eyes to dry up and leads to discomfort and potential visual problems. A group of diseases characterized by progressive degeneration of the optic nerve, which transfers visual information from the eyes to the brain. It leads to poor eyesight or blindness. The macula is the central part of the retina. Age-related macular degeneration is one of the main causes of blindness in developed countries. Although your risk of getting these conditions depends to some extent on your genes, your diet may also play a major role. The most common eye diseases include cataracts, macular degeneration, glaucoma and diabetic retinopathy. Your risk of developing these diseases depends on your age, genetics, chronic diseases and lifestyle. Vitamin A deficiency is one of the most common causes of blindness in the world 1. Vitamin A is only found in animal-derived foods. The richest dietary sources include liver, egg yolks and dairy products. However, you can also get vitamin A from antioxidant plant compounds called provitamin A carotenoids, found in high amounts in some fruits and vegetables. The most efficient of them is beta-carotene, which is found in high amounts in kale , spinach and carrots 3 , 4. Vitamin A deficiency may lead to night blindness and dry eyes. Vitamin A is only found in animal-derived foods, but the body can convert plant-based carotenoids into vitamin A. Lutein and Zeaxanthin Lutein and zeaxanthin are yellow carotenoid antioxidants known as macular pigments. This is because they are concentrated in the macula, the central part of the retina. The retina is a layer of light-sensitive cells on the back wall of the eyeball. Lutein and zeaxanthin act as a natural sunblock. Controlled studies show that the intake of lutein and zeaxanthin is proportional to their levels in the retina 6. However, the evidence is not entirely consistent. On the other hand, other observational studies suggest that lutein and zeaxanthin may also reduce the risk of cataracts 9. Lutein and zeaxanthin are usually found together in foods. The chart below shows some of their richest dietary sources, according to the USDA Leafy greens are not the only good sources of these carotenoids. Egg yolks, sweet corn and red grapes may also be high in lutein and zeaxanthin In fact, egg yolks are considered to be one of the best sources because of their high fat content Carotenoids are better absorbed when eaten with fat, so it is an excellent idea to add some avocado or healthy oils to your leafy vegetable salad 13 , A high intake of lutein and zeaxanthin may reduce your risk of eye diseases such as macular degeneration and cataracts. DHA is found in high amounts in the retina, where it may help maintain eye function. It is also important for brain and eye development during infancy. For this reason, DHA deficiency can impair vision, especially in children 15 , 16 , 17 , Evidence also shows that taking omega-3 supplements may benefit those with dry eye disease 19 , 20 , 21 , This causes the eyes to become excessively dry, leading to discomfort and visual problems. One study in people with dry eyes showed that taking EPA and DHA supplements daily for three months significantly reduced dry eye symptoms by increasing the formation of tear fluid Omega-3 fatty acids may also help prevent other eye diseases. A study in middle-aged and elderly people with diabetes found that taking at least mg of long-chain omega-3 fatty acids daily may reduce the risk of diabetic retinopathy In contrast, omega-3 fatty acids are not an effective treatment for age-related macular degeneration Additionally, omega-3 supplements derived from fish or microalgae are widely available. Getting adequate amounts of the long-chain

omega-3 fatty acids EPA and DHA from oily fish or supplements may reduce the risk of several eye diseases, especially dry eye disease. Gamma-linolenic acid is an omega-6 fatty acid found in small amounts in the diet. Unlike many other omega-6 fatty acids, gamma-linolenic acid appears to have anti-inflammatory properties 25 , The richest sources of gamma-linolenic acid are evening primrose oil and starflower oil. Some evidence suggests that taking evening primrose oil may reduce the symptoms of dry eye disease. One randomized controlled study gave women with dry eyes a daily dose of evening primrose oil that provided mg of gamma-linolenic acid. The study found that their symptoms improved over a six-month period Gamma-linolenic acid, which is found in high amounts in evening primrose oil, may reduce the symptoms of dry eye disease.

Vitamin C The eyes require high amounts of antioxidants “ more so than many other organs. The antioxidant vitamin C appears to be especially important, although controlled studies on its role in eye health are lacking. The concentration of vitamin C is higher in the aqueous humor of the eye than in any other body fluid. The aqueous humor is the liquid that fills the outermost part of the eye. The levels of vitamin C in the aqueous humor are directly proportional to its dietary intake. In other words, you can increase its concentration by taking supplements or eating foods rich in vitamin C 28 , Observational studies show that people with cataracts tend to have a low antioxidant status. High amounts of vitamin C are found in many fruits and vegetables, including bell peppers, citrus fruits, guavas , kale and broccoli Vitamin C is an important antioxidant, and getting enough vitamin C may protect against cataracts.

Vitamin E Vitamin E is a group of fat-soluble antioxidants that protect fatty acids from harmful oxidation. Since the retina is highly concentrated in fatty acids, adequate vitamin E intake is important for optimal eye health Although severe vitamin E deficiency may lead to retinal degeneration and blindness, it is unclear whether supplements provide any additional benefits if you are already getting enough from your diet 33 , In contrast, randomized controlled studies indicate that vitamin E supplements do not slow or prevent the progression of cataracts The best dietary sources of vitamin E include almonds , sunflower seeds and vegetable oils, such as flaxseed oil Vitamin E deficiency may lead to visual degeneration and blindness. The eyes contain high levels of zinc

Zinc is a part of many essential enzymes, including superoxide dismutase, which functions as an antioxidant. Zinc also appears to be involved in the formation of visual pigments in the retina. For this reason, zinc deficiency may lead to night blindness In one controlled study, elderly people with early macular degeneration were given zinc supplements. However, further studies are needed before strong conclusions can be reached. Natural dietary sources that are abundant in zinc include oysters, meat, pumpkin seeds and peanuts

Zinc plays an important role in eye function. One study suggests that supplements may slow the early development of macular degeneration in elderly people.

Take Home Message Many chronic diseases are preventable. You can avoid or delay them by following healthy lifestyle habits, such as a wholesome diet and regular exercise. This also applies to certain degenerative eye diseases. Getting enough of the nutrients listed in this article may help reduce your risk. Chances are, a diet that keeps your whole body healthy will keep your eyes healthy too.

Chapter 8 : nutrition and the eyes

The Handbook of Nutrition, Diet and the Eye is the first book to thoroughly address common features and etiological factors in how dietary and nutritional factors affect the eye. The ocular system is perhaps one of the least studied organs in diet and nutrition, yet the consequences of vision loss can be devastating.

You might also like these other newsletters: Please enter a valid email address Sign up Oops! Please enter a valid email address Oops! Please select a newsletter We respect your privacy. Eye disease is one of the most common causes of permanent disability in the United States. More than 20 million Americans age 40 and older have cataracts , and 10 million Americans age 60 and over have age-related macular degeneration AMD. These eye diseases occur as we grow older, and proper nutrition may have some affect on both of them. Cataracts develop on the lens of the eye when the proteins in the lens are damaged. These proteins are responsible for keeping the lens clear. When they become damaged, the lens becomes cloudy or opaque, and your vision may become blurry. You may also have poor night vision or double vision with cataracts. Cataract surgery is often necessary to remove and replace the damaged lens with an artificial lens. AMD occurs when cells in the macula of the eye die. The macula is located in the center of the retina in the back of the eye, and is responsible for your sharp, central vision, which you need for reading and other tasks that require good eyesight. Once the macula is damaged, your vision is no longer clear, and you cannot make out fine details of objects. There is no cure for AMD, but proper nutrition may help prevent it from worsening. Diet and Eye Disease: According to Nelson, the nutrients associated with eye health are vitamins C and E; carotenoids, beta carotene, lutein, and zeaxanthin; omega-3 fatty acids; zinc; and vitamins B6, B9 folic acid or folate , and B Antioxidants also help prevent the cross linking of proteins in the lens which can cause cataracts. Fruits and vegetables good sources of vitamins C and E Dark green vegetables such as kale and spinach lutein, vitamin E Yellow and orange fruits and vegetables beta carotene and zeaxanthin Anchovies, herring, mackerel, salmon, sardines, trout, tuna, and white fish omega-3 fatty acids Beef, eggs, lamb, milk, peanuts, pork, and whole grains zinc Bananas, chicken, dried beans, fish, liver, pork, and potatoes vitamin B6 Citrus fruits, fortified cereals, dried beans, green leafy vegetables, liver, mushrooms, nuts, and peas folic acid Dairy products, eggs, meat, poultry, and shellfish vitamin B12 A diet high in refined carbohydrates , such as white rice, white bread, and pasta, may actually increase your risk of developing AMD. These foods have a high glycemic index, which means they are broken down rapidly into blood glucose or sugar. Choose breads and pasta made from whole grains and brown rice for your complex carbohydrates. For those with intermediate AMD who want to try the supplement formula, a discussion with your doctor is a must.

Chapter 9 : Eye Vitamins and Nutrition for Your Eyes - www.nxgvision.com

Learn about specific nutrition and exercise by age and stage for babies, toddlers, preschoolers, kids, and teenagers recommended by the American Academy of Pediatrics. Encouraging good eating and exercise habits with kids sets patterns they're likely to stick to their entire lives Eye-healthy food.

Previous Next Nutrition and the Eye Nutrition plays a very important role in the health of the entire eye. From the front of the eye to the back, various nutrients affect the comfort of the eye and caliber of the vision. People with significant dry eye syndrome, which causes the surface epithelial layer to break down, may have their vision markedly reduced. Also, they may suffer from burning and gritty sensations. The omega 3 oils, fish oil capsules, flax seed gel caps, red krill oil capsules and eating fatty fish such as Salmon, Tuna, Mackerel and Cod can be very helpful as a part of the treatment for this type of problem. Another problem helped by fish oil type products that occurs in the front of the eye is the posterior form of Blepharitis, which involves the oil glands of the eyelid. The composition of the lipid secretions is biochemically improved by these fish oil type products. Overall, the tear film, subsequently, will provide a more consistently smooth layer over the cornea and improve vision and the comfort of the eye. Moving further into the eye is the crystalline lens that begins to develop cataract changes as we age. Studies have shown that people with reduced levels of vitamin C and vitamin E have a higher incidence of cataract formation. Lycopene, a carotenoid type phytonutrient, has, recently been shown to help protect against cataract formation. Lycopene is found in tomatoes and tomato based products. At the back of the eye is the retina and, more importantly, the macula, which is a very small area near the center of the retina that is responsible for sharp, clear vision. As most people now know, macular degeneration, as it becomes more advanced can destroy your useful, sharp central vision. Lutein and Zeaxanthine, two additional carotenoid phytonutrients, which concentrate in the macular area help to protect the macula by reducing free radical formation, which is caused by a process known as oxidative stress that is, partially, initiated by UV light. These free radical lead to breakdown of the cells in the macular area. Initially, as the macular area deteriorates, the dry form occurs. However, over time, the dry form, as it progresses can, suddenly, leak fluid or bleed and become the more dreaded wet form. Lutein and Zeaxanthine are the protective nutrients for the macula. They are found in the dark leafy green vegetables, especially, in spinach, kale and collard greens. Zeaxanthine is, also found in corn and other yellow vegetables and egg yolks. A study reported in the Journal of the American Medical Association in first reported on the benefits of the dark leafy green vegetables and identified Lutein and Zeaxanthine as the likely reason for that protection. Thus, fish oil seems to play a role in a macular health in addition to ocular surface health and, even, general body health including heart health. Lycopene, which was, previously, mentioned, may, also, be protective to macula. As a final point, please protect yourself from ultraviolet light, which can deleteriously affect the ocular surface, lens, and macula. UV block sunglasses provide that protection. In addition, do not smoke since smoking has been proven to irritate the ocular surface, increase cataract formation, and increase the risk of macular degeneration.