

## Eye health

### Description

To: Jesus

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Eye Health

Night vision

Black currant & bilberry  
Black currant & bilberry have anthocyanosides like cyanidin-3-glucoside (C3G)  
Superfruit black currant supplies active C3G to support dark adaptation and night vision

Yellow sunglasses

Wearing yellow undarkened sunglasses (blueblockers) block blue light & appear

Floaters

Floaters are dark outlines superimposed on what we see in our vision. They may

What may help:

125 milligrams L-lysine  
40 milligrams vitamin C  
26.3 milligrams Vitis vinifera extract  
5 milligrams zinc  
100 milligrams Citrus aurantium  
190 milligrams bromelain  
95 milligrams papain  
95 milligrams ficin  
chrysanthemum tea  
goji berries  
mulberry leaves

acupressure- beginning of eyebrow (by nose), right & left side of eye, just above

[theepochtimes.com/health/floaters-symptoms-causes-treatments-and-natural-approaches/](https://theepochtimes.com/health/floaters-symptoms-causes-treatments-and-natural-approaches/)

Steroid injections directly into the eye may be 2x as effective against uveitis

What may cause macular degeneration-

Chris Knoppe  
Refined oils  
Cooking polyunsaturated fat  
Refined grains  
Transfat  
Refined sugars  
NRG, heart disease, diabetes, obesity, lung cancer, copd, lung infections, ast  
degeneration

[youtube.com/watch?v=Y\\_09DnSGetE](https://www.youtube.com/watch?v=Y_09DnSGetE)[ /embedyt ]

What May Help

kale, spinach, avocados & egg yolks may have lutein & zeaxanthin for eyes  
beta carotene  
vitamin D3  
coQ10  
acetyl-L-carnitine  
acetyl-L-carnosine  
vitC  
noni  
acai  
dry eyes-  
spirulina  
curcumin  
vitA  
vitD  
GAMMA LINOLENIC ACID GLA  
mucus specific anti-inflammatory  
80% effective  
statins appear to increase cataracts  
pinkeye- boric acid in warm water, belladonna (homeopathic) worked better  
contact lenses- peroxide kills blinding acanthamoeba parasite- never use tap w  
macular degeneration AMD

Contact lenses appear to contain 5,000 higher than safe levels PFAS (flouride)  
[nationalworld.com/health/soft-contact-lenses-found-to-contain-toxic-forever-ch](https://nationalworld.com/health/soft-contact-lenses-found-to-contain-toxic-forever-chemicals/)

800mg+/day calcium 2x/\ age related macular degeneration AMD  
[http://www.lef.org/protocols/eye\\_ear/macular\\_degeneration\\_07.htm](http://www.lef.org/protocols/eye_ear/macular_degeneration_07.htm)  
wet macular degeneration needs avastin

Age-related macular degeneration (AMD) impairs central vision, dry & wet type.

What may ghelp?  
Vitamin C  
L-carnosine drops  
vitamin E

Hypertension

Wet AMD appears higher with high diastolic blood pressure

AMD appears higher when using thiazide diuretics

lutein, zeaxanthin, and meso-zeaxanthin carotenoid intake appears to reduce AMD

Vitamin B complex (sustain release best) appears to reduce AMD

Nuts may help

Chicken may help

Anti-Vascular Endothelial Growth Factor (anti-VEGF) agents injected into the eye

VEGF Trap-Eye may be as effective as Lucentis with half the injections

DMSO solution may bring the anti-VEGF agents into the eye without the possibility of

Photodynamic therapy, also used in cancer therapy, treats wet AMD

Photodynamic Therapy (PDT) is a systemic treatment used in oncology by a variety of specialists to eradicate premalignant and early-stage cancer and reduce the tumor burden in end-stage cancers. PDT involves three key components: a photosensitizer, light, and oxygen.

Photosensitizing agents are drugs that become active when light of a certain wavelength is directed onto the anatomical area where they are concentrated. It is an approved treatment for wet macular degeneration, and is a more widely preferred treatment that takes advantage of certain unique properties of subretinal neovascular vessels.

Compared with normal blood vessels, neovascular tissue appears to retain the photosensitizer medicine used in photodynamic therapy. After the medicine, verteporfin (Visudyne), for example, has been injected into a peripheral vein, it can detect abnormal blood vessels in the macula and attach itself to the proteins in the abnormal blood vessels. Laser light of specific wavelengths, which activates photosensitive drugs like verteporfin, is focused on the macula for about one minute.

When verteporfin is activated by the laser, the abnormal blood vessels in the macula are destroyed. This happens without any damage to surrounding eye tissue. Because normal retinal vessels retain very little verteporfin, the abnormal vessels are selectively destroyed. Blood or fluid cannot leak out and damage the macula and optic nerve (Wormald 2007).

While verteporfin PDT slowed wet AMD progression, newer anti-VEGF therapies have shown vision improvement in many patients. Combination therapies (PDT + corticosteroids) have shown some promise, particularly in certain classes of disease (Miller 2007).

Laser Photocoagulation

Laser photocoagulation (LP) is an effective treatment for wet type 1 AMD. However, LP is limited to the treatment of well-defined, or "classic" subretinal neovascularization, present in only 25% of those with wet type AMD (Anon 2011a).

patients, LP is effective at preventing future vision loss, but it cannot rest. In addition, choroidal neovascularization can recur after treatment and cause (Yanoff 2004). LP has not worked well on atrophic (dry) AMD.

Surgery. Subretinal surgery has been attempted for AMD. Some surgeries were for the removal of blood and the subretinal neovascular membrane. Another type of surgery attempted to physically displace the macula and move it onto a bed of healthier tissue. Research studies show that the results of surgery are disappointing (Bressler 2004) generally not improved after surgery (Hawkins 2004). Additionally, the frequency of surgical complications were generally thought to be unacceptably high.

In late 2010, the FDA approved a device called the Implantable Miniature Telescope (IMT) to improve vision in some patients with end-stage AMD. The IMT replaces the natural lens with surgery in only one eye and provides 2X magnification. The other eye is used for normal vision. In the clinical trials upon which FDA approval was based, at 1 and 2 years, 75 percent of patients had an improvement in their visual acuity of two lines or more. 75 percent improved their vision by three lines, and 40 percent had a four-line improvement on a standard eye chart (Hudson 2008 and [www.accessdata.fda.gov](http://www.accessdata.fda.gov)).

Each person may respond differently to the various conventional treatments available for macular degeneration. From a patient's perspective, it is very important to understand wet macular degeneration and its treatment in order to be able to discuss a therapeutic plan with his or her doctor. A specific treatment plan should be tailored to the patient's needs and disease activity.

The advent of anti-VEGF therapies, for example, has been seen as a significant advance for patients with wet macular degeneration. It is important to speak with a specialist about the benefits and side effects of anti-VEGF drugs to determine if they are appropriate for a specific case. It should be noted that there is some speculation, which is not supported by strong human data, that anti-VEGF macular degeneration treatments may exert systemic effects and negatively impact vascular health by "leaking" from the eye.

It is, therefore, important to evaluate your cardiovascular health if you are being treated for macular degeneration. For instance, a person who recently had a heart attack or has extensive atherosclerosis may opt to avoid anti-VEGF treatments in favor of photodynamic therapy or laser photocoagulation. Individuals receiving anti-VEGF treatments should target a cholesterol level of 100 mg/dL, fasting glucose between 70-85 mg/dL, etc. For more tips on supporting your cardiovascular health, read our [Atherosclerosis and Cardiovascular Disease Prevention](#) and [Emerging Options: Hormone Therapy DHEA](#).

Research has shown that the hormone dehydroepiandrosterone (DHEA) is abnormally low in patients with AMD (Bucolo 2005). DHEA has been shown to protect the eyes against oxidative damage (Tamer 2007). Because the macula requires hormones to function, an emerging hypothesis hypothesizes that low blood sex hormone levels cause the retinal macula to accumulate cholesterol in an attempt to produce its own hormones (Dzukan 2002).

The accumulation of cholesterol in macula may lead to the production of pathological changes in macular degeneration. An inverse association of female hormone with neovascular AMD was found with current and former use of hormone replacement therapy among Caucasian and African American women (Edwards 2010). Restoring optimal hormone balance with bioidentical hormones may be an effective new treatment for both men and women. Clinical studies are underway to test this hypothesis and possible hormonal treatment options.

#### Melatonin

Melatonin is a hormone and strong antioxidant that scavenges free radicals. Several studies have shown that many areas of the eye have melatonin receptors (Rastmanesh 2004). Melatonin at bedtime. The treatment prevented further vision loss. After six months, vision had not diminished and the majority of patients had reduced pathologic macular changes on examination (Yi 2005).

#### Dietary Considerations

Soy. Soy contains the phytonutrient genistein, which has documented antiangiogenic properties postulated to be the result of inhibiting VEGF (Yu 2010). This property of inhibiting blood vessel growth is important in limiting abnormal ingrowth of choroidal blood vessels. In mice, genistein inhibited retinal neovascularization and expression of VEGF (Wang 2004).

Food rich in Omega-3 fatty acids. Oily fish (e.g., salmon, tuna, and mackerel) seeds are important sources of omega-3 fatty acids, essential for protection against degeneration and other diseases (Landrum 2001). A meta-analysis found that patients with high dietary intake of omega-3 fatty acids had a 38% lower risk of late (more advanced) AMD. Additionally, an association was observed between eating fish two times a week and reduced risk of both early and late AMD (Chong 2008).

**Macular Pigments: Lutein, Zeaxanthin, and Meso-Zeaxanthin**

The relationship between the density of macular pigment (MP) and the onset of AMD is well established. The MP is composed principally of three carotenoids: lutein, zeaxanthin, and meso-zeaxanthin. They represent roughly 36, 18, and 18 percent, respectively, of the total carotenoid content of the retina. They are found within the macula and surrounding areas, including blood vessels and capillaries which nourish the retina (Rapp 2000). Lutein, zeaxanthin and meso-zeaxanthin ensure proper functioning of the macula by filtering harmful ultraviolet light and acting as antioxidants (Beatty 2000; Kaya 2010). In the aging process, there is a decrease in levels of lutein and zeaxanthin; low levels of these pigments are associated with AMD (Johnson 2010). An autopsy study on donated eyes found that levels of all three carotenoids were reduced in those with macular degeneration compared to controls. The most significant finding, however, was the sharp decrease in meso-zeaxanthin in the macula of macular degeneration subjects (Bone 2000).

This postmortem study helped confirm other studies indicating the importance of maintaining the integrity of the macula (Krinsky 2003). These carotenoids protect the macula and photoreceptor cells beneath via their antioxidant properties and light-filtering capabilities (Landrum 2001).

Intake of lutein and zeaxanthin is an important preventative measure, but may not stop the degeneration process when it is ongoing (Richer 2004). Because lutein and zeaxanthin are tissue-specific characteristic of all carotenoids, their natural tendency is to accumulate in the macula and retina. Consumption of foods rich in these substances is especially important as they have a direct effect on macular pigment density -- the denser the pigment, the less likely retinal tear or degeneration will occur (Stahl 2005). Fruits with a yellow or orange color, such as mangoes, kiwis, oranges, and vegetables of the dark green leafy, orange and yellow color, are sources of lutein and zeaxanthin (Bone 2000).

Unlike lutein and zeaxanthin, meso-zeaxanthin is not found in the diet, but is synthesized in the eye to maintain youthful macular density (Bone 2007). Patients with macular degeneration have 30% less meso-zeaxanthin in their macula compared to individuals with healthy eyes (Quantum Nutritionals, data on file). When taken as a supplement, meso-zeaxanthin is absorbed into the blood stream and effectively increases macular pigment levels.

**Targeted Nutritional Interventions**

**Anthocyanidins and Cyanidin-3-Glucoside (C3G).** C3Gs are critical components of the diet as well as being powerful antioxidants (Amorini 2001; Zafra-Stone 2007). Positive effects have been noted in many animal studies and some human studies using bilberry for macular degeneration as well as other eye disorders including diabetic retinopathy, retinal detachment, glaucoma, and cataracts (Fursova 2005; Milbury 2007). C3G has been shown to improve night vision in humans by enabling the rods in the eye responsible for night vision to be functioning faster (Nakaishi 2000).

In animal cells, C3G regenerated rhodopsin (the retinal protein that forms a complex that absorbs light) (Amorini 2001). The anthocyanidins in bilberry decrease the permeability by interacting with blood vessel collagen so as to slow down enzyme activity on the blood vessel wall. This may prevent the leakage from capillaries that is present in neovascular AMD. Studies also show that bilberry increases oxidative stress defense mechanisms in the eyes (Milbury 2007). There may be additional benefits by adding C3G to the diet (Roberts 2007).

C3G, which is highly bioavailable, enhances other functions in the body (Miyazaki 1999; Matsumoto 2001). Its potent antioxidant properties protect tissues against oxidative damage, often the first step in cancer formation and aging of tissues (Acquaviva 2003; Milbury 2007). C3G protects endothelial cells against peroxynitrite-induced endothelial dysfunction and vascular failure (Serraino 2003).

In addition, C3G fights vascular inflammation by inhibiting inducible nitric oxide synthase (iNOS) (Pergola 2006). At the same time, C3G upregulates the activity of endothelial nitric oxide synthase (eNOS), which helps maintain normal endothelial function (Xu 2004). These effects on blood vessels are especially important in delicate nerve cells depend on the single ophthalmic artery for their sustenance. In animal models, C3G prevents obesity and ameliorates blood sugar elevations. One way it does this is by increasing gene expression of the beneficial fat-related protein adiponectin (Tsuda 2004). Diabetics, of course, are predisposed to severe eye disease, including blindness from elevated blood sugar levels.

C3G helps induce apoptosis (programmed cell death) in a number of human cancer cell lines, an important step in cancer prevention (Fimognari 2004; Chen 2005). In a similar but different mechanism, C3G stimulates rapidly proliferating human cancer cells to differentiate, so they more closely resemble normal tissue (Serafino 2004).

Finally, it was discovered that C3G is neuroprotective in experimental cellular models, helping to prevent the negative effects of the Alzheimer's-related amyloid-beta on brain cells (Tarozzi 2010).

#### Grape Seed Extract

Grape seed extract, a bioflavonoid, is a potent antioxidant. Plant-derived bioflavonoids are readily assimilated into our body when consumed. Bioflavonoids protect retinal ganglion cells (Majumdar 2010). Studies conducted in fruit flies showed that grape seed extract attenuates the aggregation of pathologic proteins, which has a protective effect against macular degeneration and neurodegenerative disorders. In fruit flies administered grape seed extract exhibited improved eye health (Pflieger 2009). Experiments in diabetic animals indicate that grape seed extract limits the ocular damage seen in diabetic retinopathy (degradation of the retina), which shares pathological characteristics with AMD (Li 2008).

Compelling laboratory evidence demonstrates that grape extracts can inhibit angiogenesis in human cells (Liu 2010). This suggests that grape seed extract may suppress the abnormal vessel growth observed in wet AMD.

#### Resveratrol

Resveratrol is a potent polyphenolic antioxidant compound produced by grapes and other plants for protection against pathogens. In humans, it exerts a broad range of physiologic effects when ingested orally. Several studies have demonstrated cardioprotective properties of resveratrol, including endothelial protection and attenuation of inflammation. Research indicates that resveratrol may combat macular degeneration and promote eye health through several mechanisms. In an animal model, resveratrol was able to stave off diabetes-induced retinal lesions (Kim 2011).

Moreover, this same study showed that resveratrol was able to dampen VEGF signaling in mouse retinas, a key pathologic feature of AMD. Another study confirmed these results by showing that resveratrol inhibited angiogenesis and suppressed neovascularization in mice prone to develop macular degeneration due to a genetic mutation (Hua 2011). Also, several laboratory experiments have suggested additional protective mechanisms of resveratrol in macular degeneration, including protecting retinal epithelial cells from hydrogen peroxide-induced oxidative stress and light damage (Wang 2010; Pinteá 2011).

Given these exciting initial findings regarding resveratrol and macular degeneration, its stellar track record in a variety of other conditions, Life Extension believes supplementation with AMD (especially the "wet" type).

A variety of other conditions may benefit from supplementation with resveratrol.

**Ginkgo Biloba.** Ginkgo biloba improves microcapillary circulation in the eye and slows the deterioration of the macula (Thiagarajan 2002). By inhibiting platelet aggregation and maintaining blood vessel elasticity, ginkgo biloba improves blood flow through major blood vessel capillaries. Ginkgo is also a powerful antioxidant (Mahadevan 2008).

**Glutathione and Vitamin C.** Glutathione and Vitamin C are antioxidants found in high concentrations in healthy eyes and in diminished quantities in the eyes of AMD patients. Vitamin C aids glutathione synthesis in the eye. When combined with cysteine, an amino acid,

antioxidant, cysteine remains stable in aqueous solutions and is a precursor to collagen synthesis. Vitamin C is important because it absorbs ultraviolet radiation, which can cause cataracts (Tan 2008). Topical Vitamin C inhibited angiogenesis in an animal model of inflammatory neovascularization (Peyman 2007).

#### L-Carnosine

L-Carnosine is a naturally occurring antioxidant and anti-glycation agent. Studies have shown that carnosine inhibits lipid peroxidation and free radical-induced DNA damage (Guiotto 2005). Topically applied N-acetyl-carnosine prevented light-induced DNA damage and repaired damaged DNA strands (Specht 2000), as well as improved visual acuity and reduced lens opacification in animals and humans with advanced cataracts (Williams 2009).

#### Selenium

Selenium, an essential trace mineral, is a component of the antioxidant enzyme glutathione peroxidase, important in slowing the progression of AMD and other eye diseases including cataracts and glaucoma (Head 2001; King 2008). In mice, increased expression of glutathione peroxidase protected against oxidative-induced retinal degeneration. Coenzyme Q10 (CoQ10). CoQ10 is an important antioxidant that may protect against oxidative radical damage within the eye (Blasi 2001). Mitochondrial DNA (mtDNA) instability is an important factor in mitochondrial impairment culminating in age-related changes in the eye. In all regions of the eye, mtDNA damage is increased as a consequence of aging and age-related disease (Jarratt 2010). In one study, a combination of antioxidant vitamins, acetyl-L-carnitine, and omega-3 fatty acids improved the function of mitochondrial pigment epithelium and subsequently stabilized visual functions in patients with advanced AMD (Feher 2005).

#### Riboflavin, Taurine, and Lipoic Acid

Riboflavin (B2), taurine, and R- lipoic acid are other antioxidants utilized to prevent AMD. Riboflavin is a B complex vitamin that helps produce glutathione and helps prevent light sensitivity, loss of visual acuity, as well as cataracts in the eyes (Lopez 1993). Taurine is an amino acid found in high concentration in the eye. Taurine deficiency alters the structure and function of the retina (Hussain 2005). Lipoic acid is considered a "universal antioxidant" because it is fat and water soluble. It also reduces choroidal neovascularization in mice (Dong 2009).

#### B Vitamins

Recent advances surrounding the causes of AMD have unearthed shared risk factors with cardiovascular disease (CVD) as well as similar underlying mechanisms. Elevated biomarkers of inflammation and CVD including C-reactive protein (CRP) and homocysteine (Vine 2005). Researchers have identified that elevated levels of homocysteine and low levels of certain B vitamins (critical to the metabolism of homocysteine) are associated with an increased risk of AMD and vision loss in older adults (Roach 2007). Studies have found that supplementing with folic acid, B6, and B12 can significantly reduce homocysteine levels in adults with cardiovascular risk factors (Christen 2009). The data, along with other confirmatory studies, have convinced physicians to recommend B vitamin supplementation to patients with AMD. A study in more than 5000 women indicates that including folic acid (5 mg/day), B6 (50 mg/day) and B12 (1 mg/day) in the diet may prevent and reduce the risk of AMD (Christen 2009).

Supplement Recommendations from the Age-Related Eye Disease Study (AREDS)  
The largest and most important study of nutritional supplements in AMD is the Age-Related Eye Disease Study (AREDS). The AREDS demonstrated a reduction in the risk of progressing to end-stage AMD when vitamins and zinc supplementation were given to patients with early forms of the disease. Thousands of patients were followed for over six years. The study revealed significant improvements for patients with AMD and recommended antioxidant supplementation with zinc for most patients with AMD, except those with advanced cases in both eyes. The AREDS formula consists of the following, which is to be taken daily: Vitamin A (Beta Carotene), Vitamin C, Vitamin E, Zinc and Copper (Fahed 2010).

#### DHA and EPA

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An 8-year trial of 2924 eligible AREDS AMD participants found that independent of AREDS supplementation, higher intakes of DHA and EPA were associated with a lower risk for progression to advanced AMD (Chiu 2009).

Zinc. Following the revealing data found from the AREDS, additional research has shown significant activity in treating AMD, specifically the dry form of the disease. In a study, a zinc-monomcysteine supplement significantly improved visual acuity and contrast sensitivity compared to placebo (Newsome 2008).

#### Summary

There has been limited success within conventional medical treatment protocols for restoring eyesight from either form of AMD. Leading researchers are documenting the benefits of holistic approaches to AMD. Patients are encouraged to increase physical fitness, improve nutrition (including a reduction in saturated fats), abstain from smoking, and avoid excessive light. Dietary supplementation with trace elements, carotenoids, and vitamins is recommended for improving overall metabolic and vascular function. Regular screening and patient education offer the most hope for reducing the debilitating effects of AMD.

#### Life Extension Suggestions

Lutein: 10 to 20 mg daily

Zeaxanthin: 3 to 8 mg daily

Astaxanthin: 6 to 12 mg daily

Cyanidin-3-glucoside (C3G): 2 to 5 mg daily

Methyltetrahydrofolate (MTHF): 1000 to 2000 mcg daily

Vitamin B6 (as pyridoxal 5'-phosphate): 100 to 200 mg daily

Vitamin B12 (as methylcobalamin): 1 to 5 mg daily

Beta carotene: 25,000 IU daily

Vitamin C: 1000 to 2000 mg daily

Natural Vitamin E: 100 to 400 IU alpha-tocopherol and 200 mg gamma-tocopherol

Zinc: 45 to 60 mg daily

Copper: 2 mg daily

R-Lipoic acid: 300 to 900 mg daily

Selenium: 200 to 400 mcg daily

Taurine: 1000 mg daily

CoQ10 (as ubiquinol): 100 to 300 mg daily

N-acetyl-carnosine eye drops: 1 to 2 drops, 1-4 times daily

Omega-3 fatty acids (from fish): 2000 to 6000 mg daily

Ginkgo biloba (standardized extract): 120 to 240 mg daily

Grape extract: 150 to 300 mg daily

Bilberry (standardized extract): 100 to 200 mg daily

Soy isoflavones: 135 to 270 mg daily

The following blood testing resources may be helpful:

Male and Female Panel

Omega Score®

Coenzyme Q10 (CoQ10)

In addition, the following pharmaceutical options should be discussed with your doctor:

Lucentis®

Macugen®

Avastin®

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consulting your physician.

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Stop Degenerative Eye Disease with Coconut Oil

Dr. Bruce Fife

Can you avoid age-related degenerative eye disease? Our eyesight naturally diminishes to some extent as we age, but regardless of our age, our eyes should provide us with vision for a lifetime. New research reveals that good eyesight can be maintained for life. Some age-related eye disorders can be stopped dead cold and possibly even reversed. However, maintaining good vision depends on your diet.

The body has an amazing ability for self-repair. We get a cut, a bruise, a broken bone, or some other injury, the body knows exactly what to do to repair the damage. In time, it is completely healed, damaged blood vessels in a bruise are repaired, and broken bones are fused back together, in many cases the repair is so complete that there is little to no memory of an injury ever occurred.

Like other tissues, peripheral nerves throughout our bodies have a high capacity for regeneration after injury, however injury to nerve cells within the central nervous system. In fact, for many years it was believed that brain tissue, could not be repaired. Once an injury occurred, the neurons, or brain cells, were gone forever. It was believed that brain cells we were born with were all that we would ever have. We now know that under the right conditions brain cells can be regenerated and new brain cells do grow and function like other cells throughout the body.

The brain contains two types of nerve cells: glia and neurons. Glia are the most numerous and provide the structural support that holds all the brain cells together. They perform several important functions, but they don't relay signals; that is the function of neurons. Neurons transmit signals by means of electrochemical impulses which allow us to think, learn, and function in our environment.

Neurons consist of three basic parts: (1) the cell body (2) the axon, a long projection of the cell that carries electrochemical impulses along the length of the cell, and (3) nerve endings that branch out like the branches on a tree. Messages are passed from one nerve impulse from the axon of one neuron to the dendrite of another. If you stop at a message is relayed in this manner almost instantaneously up to the brain where it can be felt as pain and the appropriate reaction can be quickly initiated.

The eyes are extensions of the brain and are also composed of glia and neurons. The most sensitive portion of the eye is the retina, which lines the inside of the eyeball. When the retina sends nerve impulses through the retinal ganglion cells (RGCs) to the brain. RGCs have long axons that join together like threads in a piece of rope to form the optic nerve. Any damage that occurs to the RGCs or optic nerve can cause visual impairment. If severe enough, complete blindness. When injured, retinal ganglion cells generally do not have the ability for self repair and eventually die, eliminating any chance for regeneration. Damage to RGCs or the optic nerve leads to lifelong visual impairment.

The most common degenerative eye diseases that involve damage to the retina are glaucoma, macular degeneration, and diabetic retinopathy. These three conditions account for the vast majority of irreversible vision loss in people living in affluent countries. Glaucoma is believed to be caused, in part, by abnormal pressure within the eyeball. The eyeball is filled with a viscous fluid that helps maintain the shape of the eye and circulate nutrients. This fluid is constantly entering and leaving the eyeball. If it enters faster than it leaves, the fluid within the eye builds up damaging the retina and optic nerve. Treatment is focused on reducing fluid pressure with the use of medicated eye drops, drugs, laser therapy, surgery, or a combination of these. Unfortunately, all these procedures have the potential for unwanted side effects or injury.

Diabetic retinopathy is caused by inadequately controlled diabetes. High blood sugar causes blood vessels feeding the retina to degenerate and become leaky. This distorts vision and leads to permanent damage. Besides trying to get blood sugar under control, treatment may involve laser surgery to burn or cauterize damaged blood vessels to keep them from leaking.

This permanently scars the retina, but may prevent or slow further vision loss. Macular degeneration is the slow destruction of the macula – the portion of the retina needed for sharp, central vision. In macular degeneration central vision is lost and it progresses out affecting side or peripheral vision. Vision loss is permanent. In macular degeneration is unknown and there is no effective treatment. When macular degeneration occurs later in life it is usually referred to as age-related macular degeneration. To distinguish it from other forms that may be inherited and appear early in life. For many years the inability of damaged retinal neurons and optic nerve to regenerate was accepted almost as a “law of nature.”

and on the clinical level, retinal injury was seen as being irreversible and corresponding vision loss was permanent. Today medical research is starting to unlock the secrets of neuronal regeneration. Under the right conditions, the retina and optic nerve can be healed. A growing number of studies over the past few years have demonstrated that mature RGCs can be transformed into an active regenerative state, allowing these neurons to survive injury and to regenerate axons in the injured retina. Almost all clinical studies using drugs as a means to protect the retina, optic nerve, and other components of the eye have failed. However, a special group of naturally occurring proteins called brain-derived neurotrophic factors (BDNFs) show great promise. BDNFs play a key role in regulating survival, growth, and maintenance of neurons. They help support the function of existing neurons and encourage the growth and differentiation of new neurons. Normally, injury to the optic nerve induces a rapid die-back of the axons leading to retinal ganglion cell death. However, when an adequate amount of BDNFs are present, the effects of injury are diminished and RGCs can be repaired or regenerated.

Animal studies have shown that after severing the optic nerve in adult rats, RGCs progressively degenerate until, after two months, a residual population of only 10 percent of these cells survive. When BDNFs are present, however, survival rate significantly increases. For example, in one study researchers severed the optic nerves in a group of rats. The injury to the optic nerve caused a rapid, progressive degeneration of the axons of the RGCs. After 3 weeks, only 10 percent of the RGCs survived. After 5 weeks, the number dropped to 8 percent, and by the 7th week only 5 percent remained. In a second study, BDNFs was injected into their eyes before the optic nerve was severed. In this case, three times as many RGCs survived compared to untreated controls.<sup>1</sup>

Studies show that after severing the optic nerve, BDNFs not only protect RGCs but also promote regrowth of the axons. RGCs sprout new axons, elongate, and form functional connections with other neurons. In lab animals that have had their optic nerve severed, BDNFs allowed them to recover the ability of light-dark discrimination.<sup>2</sup> In essence, BDNFs have been able to restore partial sight to blind mice.

We always have some BDNFs circulating in our central nervous system that helps protect our brains and eye from degeneration. However, people with diabetic retinopathy, glaucoma, and macular degeneration have a deficiency of BDNFs, which makes them more susceptible to neurodegeneration and visual problems.<sup>3-4</sup>

BDNFs provide the potential for preventing degenerative vision loss and possibly recovering lost vision. In animal studies, BDNFs can be injected directly into the eyeball to provide these protective proteins. Clinically, this process is not feasible because in order to reach therapeutic levels of BDNFs, multiple injections are needed over a period of time to see the benefit.<sup>5</sup>

Fortunately, BDNFs are produced naturally in our bodies. Using this fact, another way to raise BDNFs to therapeutic levels is to boost the body’s own production of these proteins. This can be done quite simply through diet.

The production of BDNFs is stimulated by the presence of ketones. Ketones are produced from fatty acids stored in the body and provide an alternative to glucose as a source of energy for the brain. Normally, our cells, including our brain cells, use glucose as their primary energy source. Most the glucose in our bodies comes from carbohydrates in our foods. When we eat carbohydrates, they are converted into glucose and released into our bloodstream. But when we don’t eat carbohydrates, blood glucose levels fall. Our cells need a source of energy to function, so when this happens, fat stores in the body are mobilized

are released into the bloodstream. Our cells can use fatty acids for fuel just like the brain, however, cannot use these fatty acids and must have an alternative. Some of these fatty acids are converted into ketones, which are readily used as fuel. Ketones not only supply the brain with energy, but also trigger the synthesis of BDNF. One way to increase the body's levels of BDNFs is to eat a low-carb diet. A diet with blood glucose levels low, which causes the release of fatty acids and the production of ketones. A very low-carb or ketogenic diet stimulates greater ketone production and high levels of BDNF. Therapeutic levels of BDNFs can be attained and maintained for an indefinite period on a very low-carb diet.

Another way to raise ketones, and consequently BDNFs, is by eating coconut oil. Coconut oil is composed predominately of the unique group of fatty acids known as medium chain fatty acids (MCFAs). When consumed, a significant proportion of these MCFAs are automatically converted into ketones, regardless of blood glucose levels. You can raise blood ketone levels simply by adding coconut oil into your daily diet.

If you eat enough coconut oil, you can raise blood levels of BDNFs to therapeutic levels. This would require the daily consumption of 3 to 6 tablespoons of coconut oil daily. This amount would be needed if you combine coconut oil with a very low-carb diet.

If you want to preserve your vision and protect yourself from encountering age-related degenerative eye disorders that affect the retina and optic nerve, your safest approach would be to incorporate coconut oil into your daily diet. If you have experienced some vision loss due to glaucoma, macular degeneration, or diabetic retinopathy, combining coconut oil with a low-carb diet can help you prevent any further vision loss and possibly even regain some of your lost vision.

<http://www.faim.org/stop-degenerative-eye-disease-with-coconut-oil>

Intravitreal injections of neurotrophic factors  
improve survival of axotomized retinal ganglion cells  
reduce levels of brain derived neurotrophic factor  
BDNF impairment is associated with age-related  
patterns of retinal ganglion cell survival

Vitamin B9 (folate)

High homocysteine levels (perhaps above 8  $\mu$ mol/L) appear to increase age-related degeneration. Many people (60% of the population, and 90% of people with depression) do not use regular folate well which may contribute to high homocysteine levels. Taking methylfolate (methyl version of vitamin B9) may increase folate blood levels 700% higher than folic acid and may reduce homocysteine levels much lower. Lowering homocysteine may help reduce depression, anxiety, dementia, bipolar disorder, schizophrenia, cardiovascular disease, congestive heart failure, stroke, migraines, and hearing loss.

What else lowers homocysteine-

vitamin B6, vitamin B12 (methylcobalamin may be best), betaine (TMG), vitamin C, magnesium

n-acetyl L-cysteine (NAC)

S-adenosylmethionine (SAME)

taurine

green vegetables, especially dark green leafy vegetables

oranges

beans

exercise

What to avoid

the prescription drugs cholestyramine, colestipol, fenofibrate, levodopa, metformin, methotrexate, niacin, nitrous oxide, pemetrexed, phenytoin, sulfasalazine

red meat and dairy products

smoking

coffee

alcohol consumption

advancing age

obesity

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Reduced B Vitamin Therapy in MTHFR C677T/A1298C Patients with Major Depressive  
" Clinical Response Correlates with Homocysteine Reduction: A Double-Blind,  
Placebo-Controlled Study

Arnie Mech and Andrew Farah

[http://enlyterx.com/wp-content/uploads/2015/11/EnLyte-Clinical-Study-Reprint.p](http://enlyterx.com/wp-content/uploads/2015/11/EnLyte-Clinical-Study-Reprint.pdf)

<https://globenewswire.com/news-release/2015/07/29/756168/10143796/en/Breakthro-ssion-Study-Shows-42-Remission-Rate-With-EnLyte.html>

<http://www.drweil.com/health-wellness/body-mind-spirit/heart/elevated-homocyst-glaucoma>

test 3-5yrs if 40-60yrs old

1 to 2 if over 60

tonometry (eye pressure test) AND ophthalmoscopy

eye pressure may not be enough

generic PGAs work

glaucoma- 3yrs of birth control pill usage doubles

glaucoma risk factors, such as African heritage, diabetes, heart disease, high  
hypothyroidism or retinal problems...a history of smoking, early menopause (pr  
long-term use of corticosteroids...a family history of glaucoma...and those wh  
older.

Cataracts

Microstents implanted during cataract surgery lower glaucoma deterioration by  
MSM or DMSO may improve the absorption of medicinal eyedrops.

Cineraria eyedrops may heal cataracts early on, & one drop a day may prevent.

N-acetyl carnosine may also reverse cataracts.

Bilberry & pycnogenol may also help cataracts.

Lecithin liposomal vitamin C & vitC in foods may reduce cataracts.

Onions, garlic, cabbage, broccoli (especially sprouts), cauliflower, greens al

N-acetylcysteine (NAC) & Alpha lipoic acid (ALA)

NAC & ALA helps improve glutathione effectiveness for the eye.

only test needed is blood pressure, heart rate, no infection

multifocal replacements up to \$4000 out of pocket & increased repeate surgery,  
get toric lens if astigmatism or irregular cornea

on naturally.

3.) Almonds to Improve Your Vision Naturally

Almond is a well known remedy for eyesight. It contains vitamin E, antioxidant  
3 fatty acids. Almond helps in enhancing concentration and memory. It is an ef  
remedy to improve vision naturally. Soak 5-10 almonds in a glass of water. Lea  
and then in the next morning, peel the skin of almonds and grind them. Make a  
consume them with a glass of warm milk. Do this remedy on a regular basis for  
best effects.

4.) Indian Gooseberry to Improve Your Vision Naturally

Gooseberry is the most effective home remedy for weaker eyesight. It works as  
herb for low vision. It is packed with a rich source of vitamin C. Vitamin C h  
functioning of retinal cells. It contains several nutrients and antioxidants.  
gooseberry in any form such as capsule, jam, tablet, juice or powder. Mix 2-3  
Indian gooseberry juice in a half cup of water. Drink this at least twice in a

5.) Eat Healthy to Improve Your Vision Naturally

Healthy diet is an important factor for improving natural vision. If you are n  
nutritious diet, it will affect your eyesight. Start consuming a healthy and b  
it plays an important role to improve your eyesight. You must have these usefu

in your daily diet routine such as eggs, milk, Eat spinach, carrot juice, blue sweet potato, dry fruits, salad, green vegetables, fruits, fish oil and lemon nutrition expert, to set a diet according to your problem.

6.) Bilberry to Improve Your Vision Naturally

Bilberry is the best remedy for weak eyesight and night blindness. Bilberry contains antioxidants, which helps to stimulate blood flow of human body. It increases and strengthens blood vessels. Which protects your eyes from harmful contents. protect from glaucoma and cataracts. Eat about one half cup of ripe bilberry fruit to improve your vision.

7.) Sunning And Palming to Improve Your Vision Naturally

Sunning and palming is also a good home remedy for weaker eyesights. It is a best method to use for reactivating your eye lens muscles. Sunning and palming your eyes provide benefit to your eyes. This method helps to relax your eyes. For sunning allow the sun to heat your eyes directly. Do this for few minutes regularly. For palming to rub your hands together to generate heat. After that, you have to close your eyes slightly through your hands, it will give you relaxation on your eyes regularly.

8.) Carrot to Improve Your Vision Naturally

Carrot is one of the most effective remedy for low vision and weaker eyesight. Carrots contain vitamins and nutrients especially phosphorous, iron, calcium and vitamin A. You can drink carrot juice regularly or you can also eat carrots as a salad. Eat or drink carrots will help to improve your eyesight.

9.) Barefoot Walking to Improve Your Vision Naturally

Walking is the most important part of life. It helps us to maintain our health. Walking or barefoot walking into their daily routine. Barefoot walking on a grassy morning will help you to get improvement in your eyesight effectively. If you want to improve your vision power again, then start barefoot walking regularly.

10.) Fennel to Improve Your Vision Naturally

Fennel is also known as the best remedy for low vision or weaker eyes. Fennel is called the herb of eyesight. It contains antioxidants and nutrients which helps to get better vision. It assists to improve our weak eyesight. Take one cup of fennel, one cup of almond and one cup of sugar. Then blend these ingredients and make a powder of it. Eat one teaspoon of this powder with a glass of milk before sleep. Use this remedy at least 2-3 months on a regular basis to improve your vision world around you without the need of glasses.

Goji berries help eyesight.

Astaxanthin

Astaxanthin is an algae extract that is an anti-inflammatory/painkiller, prevents inflammation (internally), and helps eye health. Astaxanthin needs to be taken with a meal with fat to be absorbed. Astaxanthin can help prevent:

Age-related macular degeneration (ARMD)

Cataracts

Inflammatory eye diseases (i.e., retinitis, iritis, keratitis, and scleritis)

Retinal arterial occlusion and venous occlusion

Cystoid macular edema

Diabetic retinopathy

Glaucoma

[http://articles.mercola.com/sites/articles/archive/2017/02/20/astaxanthin-whole-food-sources.aspx?utm\\_source=dnl&utm\\_medium=email&utm\\_content=art1&utm\\_campaign=20170220Z1&utm\\_term=.cid=DM134476&et rid=1894192536#\\_edn23](http://articles.mercola.com/sites/articles/archive/2017/02/20/astaxanthin-whole-food-sources.aspx?utm_source=dnl&utm_medium=email&utm_content=art1&utm_campaign=20170220Z1&utm_term=.cid=DM134476&et rid=1894192536#_edn23)

<http://www.lifeextension.com/magazine/2013/4/Astaxanthin-Provides-Broad-Spectrum-Health-Benefits/Page-01>

<http://www.valensa.com/resources/Astaxanthin.php>

Eur J Ophthalmol. 2012 Mar-Apr;22(2):216-25. doi: 10.5301/ejo.5000069.

Carotenoids in Age-related Maculopathy Italian Study (CARMIS): two-year results from a randomized study.

Piermarocchi S, Saviano S, Parisi V, Tedeschi M, Panozzo G, Scarpa G, Boschi G

G; Carmis Study Group.

Invest Ophthalmol Vis Sci. 2008 Apr;49(4):1679-85. doi: 10.1167/iovs.07-1426.

Inhibition of choroidal neovascularization with an anti-inflammatory carotenoid

Izumi-Nagai K, Nagai N, Ohgami K, Satofuka S, Ozawa Y, Tsubota K, Ohno S, Oike

J Pharm Pharmacol. 2008 Oct;60(10):1365-74. doi: 10.1211/jpp/60.10.0013.

Astaxanthin, a dietary carotenoid, protects retinal cells against oxidative stress in mice in-vivo.

Nakajima Y, Inokuchi Y, Shimazawa M, Otsubo K, Ishibashi T, Hara H.

Ophthalmology. 2008 Feb;115(2):324-333.e2. Epub 2007 Aug 22.

Carotenoids and antioxidants in age-related maculopathy italian study: multifocal electroretinogram modifications after 1 year.

Parisi V, Tedeschi M, Gallinaro G, Varano M, Saviano S, Piermarocchi S; CARMIS

Regul Toxicol Pharmacol. 2010 Oct;58(1):121-30. doi: 10.1016/j.yrtph.2010.05.0

May 8.

Suppressive effect of astaxanthin on retinal injury induced by elevated intraocular

Cort A, Ozturk N, Akpınar D, Unal M, Yucel G, Ciftcioglu A, Yargicoglu P, Aslan

Pure Appl. Chem., 1999, Vol. 71, No. 12, pp. 2253-2262

<http://dx.doi.org/10.1351/pac199971122253>

Journal of the Science of Food and Agriculture May 1, 2001: 81(6); 559-568

Infrared light and macular degeneration

Infrared light exposure (12 min 3x/day) may help reduce macular degeneration,

[http://articles.mercola.com/sites/articles/archive/2017/02/26/photobiomodulation-for-macular-degeneration-ce-dnl&utm\\_medium=email&utm\\_content=mvl&utm\\_campaign=20170305Z1\\_UCM&et\\_cid=D](http://articles.mercola.com/sites/articles/archive/2017/02/26/photobiomodulation-for-macular-degeneration-ce-dnl&utm_medium=email&utm_content=mvl&utm_campaign=20170305Z1_UCM&et_cid=D)

M135758&et\_rid=1912368176

heart astax

Mediators Inflamm. 2013; 2013: 782137.

2013 Dec 31. doi: 10.1155/2013/782137

Dietary Intake of Carotenoids and Their Antioxidant and Anti-Inflammatory Effects

Cardiovascular Care

Marco Matteo Ciccone et al.

Multiple Mechanisms of Anti-Cancer Effects Exerted by Astaxanthin

Li Zhang and Handong Wang

Orazio Tagliamonte-Scafati, Academic Editor

Mar Drugs. 2015 Jul; 13(7): 4310-4330.

2015 Jul 14. doi: 10.3390/md13074310

<https://www.cyanotech.com/pdfs/bioastin/bat108.pdf>

### [Improving Eyesight with Red Light Therapy](#)

This review shows that infrared light therapy treats both dry & wet macular degeneration successfully. It also may help the eye recover from the shots.

It also explains just why refined & heated veg oils that have polyunsaturated fatty acids (unheated & unrefined oils are healthy- especially organic extra virgin olive oil from your own country).

And it includes a review finding there may not be an eye disease that near infrared light doesn't seem to help.

Here's one of the best bulbs:

<https://www.therabulb.com/blogs/test/therabulb-introduces-industry-first-300-watt-candescant-bulb>

12 min 3x a day at 20 inches or 9 min at 15 inches (unless too hot!)

<https://endalldisease.com/healing-eyesight-vision-loss-with-red-light-therapy/>

herapy/

This review shows that infrared light therapy treats both dry & wet

macular degeneration successfully. It also may help the eye recover

from the shots.

It also explains just why refined & heated veg oils that have polyunsaturated fat cause AMD (unheated & unrefined oils are healthy- especially organic extra virgin olive oil from one country). And it includes a review finding there is not an eye disease that near infrared therapy doesn't help.

Here's one of the best bulbs:

<https://www.therabulb.com/blogs/test/therabulb-introduces-industry-first-300-watt-near-infrared-incandescent-bulb>

12 min 3x a day at 20 inches or 9 min at 15 inches (unless too hot!)

At the 1:13 minute mark is the information on macular degeneration.

At the start is the information on the cause of all heart disease. His research lines up with my research and what I've found is the cause: YouTube player

Here's doctor who's done months of research to find the origins of macular degeneration.

<https://endalldisease.com/health-eyesight-vision-loss-with-red-light-therapy/>

This review shows that infrared light therapy treats both dry & wet macular degeneration successfully. It also may help the eye recover from the shots.

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He's found what appears to be the cause of almost all macular degeneration-:  
Refined oils (my last email showed they have mercury & formaldehyde from heating) & any oil with polyunsaturated fat that is cooked (formaldehyde) which is all except unrefined coconut, unrefined macademia nut, & unrefined MCT oil has a smoke point of

260 degrees so ok for heating but not frying (it also increases metabolism & energy & weight loss).  
Peanut oil has the least polyunsaturated of all the oils used for potato chips.  
Refined grains (bleached white wheat flour, white rice) have mercury added  
Refined sugar (in contrast organic raw honey causes weight loss).  
Transfatty/hydrogenated oils  
YouTube player■

organic extra  
virgin olive oil  
from one  
country).  
And it includes  
a review  
finding there is  
not an eye  
disease that  
near infrared  
therapy doesn't  
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the best bulbs:  
<https://www.the-rabulb.com/blogs/test/therabulb-introduces-in-dustry-first-300-watt-near-infra-red-incandescent-bulb>  
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Both dry & wet macular degeneration successfully. [Italsw.therabulb.com/blogs/](https://italsw.therabulb.com/blogs/)  
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And it includes a review finding there is not an  
eye disease that near infrared therapy doesn't help.

Here's one of the best bulbs:  
[therabulb.com/blogs/test/therabulb-introduces-industry-fi](https://therabulb.com/blogs/test/therabulb-introduces-industry-first-300-watt-near-infrared-incandescent-bulb)  
[rst-300-watt-near-infrared-incandescent-bulb](https://therabulb.com/blogs/test/therabulb-introduces-industry-first-300-watt-near-infrared-incandescent-bulb)  
12min 3x a day at 20 inches or 9 min at 15 in inches (unless too hot!)  
[endalldisease.com/healing-eyesight-vision-loss-with-red-light-therapy/](https://endalldisease.com/healing-eyesight-vision-loss-with-red-light-therapy/)

This review shows that infrared light therapy treats both dry & wet macular de (from one country).

And it includes a review finding there is not an eye disease that near infrared Here's one of the best bulbs:  
<https://www.therabulb.com/blogs/test/therabulb-introduces-industry-first-300-w>  
12 min 3x a day at 20 inches or 9 min at 15 inches (unless too hot!)

Infrared therapy & the eyes

The only effective treatment for one form of macular degeneration that brings  
[articles.mercola.com/sites/articles/archive/2017/11/12/photobiomodulation-light-therapy-can-save-eyes](https://articles.mercola.com/sites/articles/archive/2017/11/12/photobiomodulation-light-therapy-can-save-eyes)

Infrared & red light together in the red heat lamp is far more effective than  
The heat lamp may also warm the eye (closed) enough to help kill the bacteria/

Avoid blue light except first thing in morning to prevent eye damage

[articles.mercola.com/sites/articles/archive/2020/07/13/light-therapy-can-save-eyes](https://articles.mercola.com/sites/articles/archive/2020/07/13/light-therapy-can-save-eyes)

Prevention macular degeneration

[articles.mercola.com/sites/articles/archive/2018/12/15/is-macular-degeneration-preventable](https://articles.mercola.com/sites/articles/archive/2018/12/15/is-macular-degeneration-preventable)

What is needed to not have to inject the drugs:

[healthline.com/health/eye-health/wt-macular-degeneration-treatment-breakthrough](https://www.healthline.com/health/eye-health/wt-macular-degeneration-treatment-breakthrough)

Pharmaceutical grade DMSO may take antibiotics throughout the eye to help kill

Rojas JC, Gonzalez-Lima F. Low-level light therapy of the eye and brain. Eye a  
J Clin Laser Med Surg. 2001 Dec;19(6):305-14.

[saunaspace.com/debunk-near-infrared-light-cataract-connection/](https://saunaspace.com/debunk-near-infrared-light-cataract-connection/)

[sciencealert.com/near-infrared-light-heals-eyes](https://sciencealert.com/near-infrared-light-heals-eyes)

## Category

1. Uncategorized

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May 6, 2021

## Author

biggs