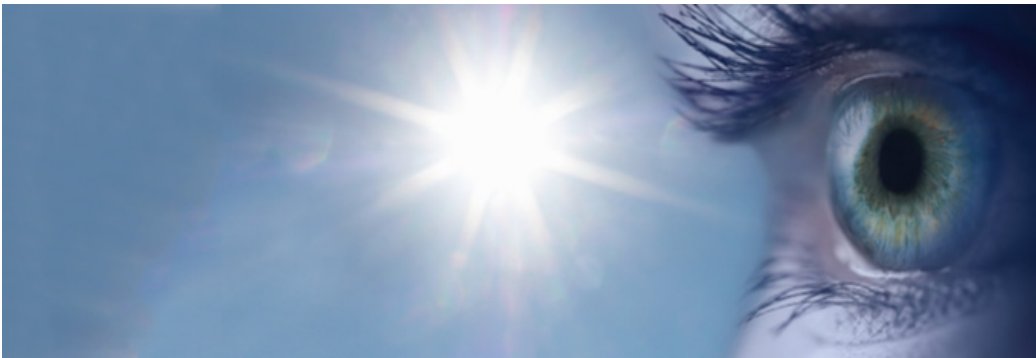


MACULAR DEGENERATION

REMÈDE PHYSIQUE

EDUCATIONAL
ARTICLES SERIES



Macular degeneration is a progressive loss of vision due to the degeneration of the macula. The macula is the area of the retina where images are focused. The macula is responsible for refined, sharp vision.

PREVENTION & TREATMENT OF EARLY STAGE MACULAR DEGENERATION IS VERY EFFECTIVE

In the United States and Europe macular degeneration is the leading cause of significant vision loss in people 55 or older. And in people over 65 it is second to cataracts as the leading cause of vision loss.

Macular degeneration appears to be a result of free radical damage, similar to the type of damage that induces cataracts; however decreased blood and oxygen supply to the retina is a key factor leading to macular degeneration. Liver congestion and an inability to digest and assimilate healthy fats that contribute to the metabolism of fat soluble vitamins (like vitamin A) also inhibits the ability of eye tissue to repair and regenerate itself.

In macular degeneration, clumps of yellowish cellular debris gradually accumulates within and underneath of the retinal pigment epithelium. The retinal pigment epithelium is the pigmented cell layer that nourishes retinal visual cells. Over time, the cellular debris buildup can cause retinal pigment cells to die off, and this inhibits the ability of the eye tissue to nourish and heal itself.

As the retinal pigment cells die off, the photoreceptor cells overlying these areas cannot function and vision from this patch of the retina is lost.

The two most common forms are “dry” (atrophic) and “wet”

(neovascular). The dry form occurs more often than wet, 80-85% of people with macular degeneration have the dry form of the disease. In either case the individual can experience blurred vision, straight objects may appear bent or distorted, and there is a dark spot around the center of the visual field that can actually obscure parts of words when the person is trying to read.

The major risk factors for developing macular degeneration are smoking, atherosclerosis (hardening of the arteries), systemic inflammation, liver congestion, high blood pressure and the natural aging process.

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3 Therapeutic Considerations: no tobacco, prevent atherosclerosis, hypoallergenic diet, alleviate liver congestion, nutritional supplements



CAUSES OF MACULAR DEGENERATION

Immune Response

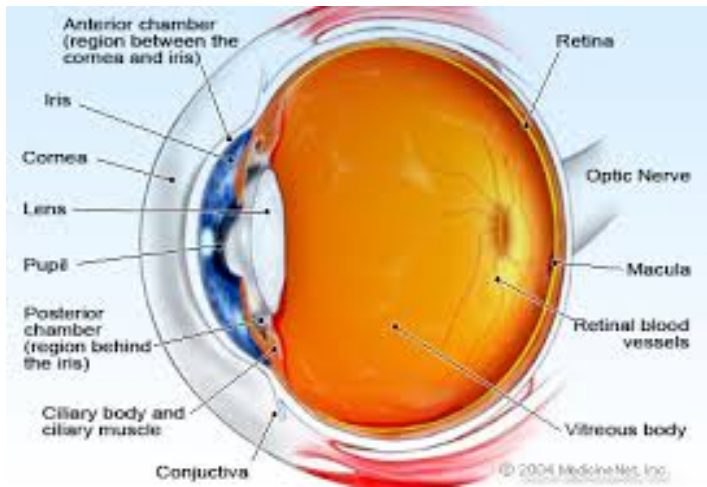
Evidence suggests that the body's immune system plays a role in the development of some forms of macular degeneration, especially the 'wet forms' that occur when the body begins to try and grow new blood vessels in the eye in an effort to heal the damaged tissues. This is a type of hyper-immune response and modulating the immune system can abate it. Identifying and removing irritants that activate the immune response is a critical step in prevention and treatment.

Environmental Factors

There are many environmental factors that have been found to contribute to the development of macular degeneration. There is a clear link between low antioxidant status, insufficiency of zinc and B-vitamins and the development of macular degeneration. Additionally caffeine, nicotine, hormonal contraceptives, pharmaceutical drugs, toxins and other substances that congest the liver also enhance macular degeneration. Avoiding environmental toxins and enhancing antioxidant status is a critical step in prevention and treatment.

Genetic Polymorphisms

The scientific research into this potential cause of macular degeneration is only just beginning to be explored. Some forms of macular degeneration observably run in families, but the hereditary link has not yet been isolated. It has only been in the last decade that the chromosomal locations of 10 genes associated with macular degeneration conditions have been identified. Once there is more information in pinpointing these genes, a person can actually prevent their activation by taking steps to enhance eye health and modulate the immune response.



THERAPEUTIC CONSIDERATIONS

In dealing with macular degeneration the most successful therapeutic strategy involves focusing on not smoking tobacco, preventing atherosclerosis, eating a hypoallergenic diet, alleviating liver congestion and using nutritional supplementation.

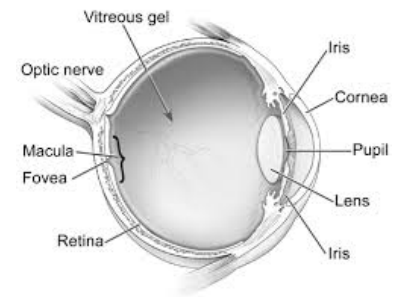
SMOKING: studies reflect that smoking tobacco greatly increases the risk of macular degeneration. Smoking a pack of cigarettes a day for any length of time increases the risk of macular degeneration by 2-3 times that of someone who has never smoked. And the risk does not return to the normal level until 15 years **AFTER** someone has stopped smoking. Whew, that is a significant impact!

ATHEROSCLEROSIS: is the hardening of the arteries. This occurs

due to systemic inflammation of the cardiovascular system. There are many factors that contribute to atherosclerosis and a good resource to engage is the book by Dr. Campbell-McBride is [Put Your Heart In Your Mouth](#). To reduce this type of inflammation it is important to eat a diet rich in healthy fats, free from processed chemically treated foods, and free from inflammatory agents. There are some inflammatory agents that are universal, like herbicides, pesticides and other environmental toxins. And there are some inflammatory agents that are specific to each individual. For instances nuts, grains and legumes can be extremely inflammatory for many people. Learning to identify what are your triggers and avoiding them is key to avoiding systemic inflammation.

HYPOALLERGENIC DIET: this is also known as an [anti-inflammatory diet](#). In general, this diet avoids all foods that can cause inflammation in the body. The use of [Dr. Coca's Pulse Test](#) is invaluable in identifying exactly which foods you are most sensitive to, so that you can avoid them more assiduously. You can access both the Pulse Test and the Anti-inflammatory Diet on the Educational Articles page of www.nessiji.com.

LIVER CONGESTION: inhibits the body's ability to break down and assimilate healthy fats. This in turn affects the ability of the body to metabolize fat-soluble vitamins like vitamins A and E that are so crucial for the health of eye tissues. To alleviate liver congestion follow the anti-inflammatory diet and enhance liver function by supporting Phase I and II detoxification pathways. Avoid exposure to toxins wherever possible, including household cleaning products and bath and body care products.



WET MACULAR DEGENERATION:

Also known as **neovascular macular degeneration**, it is estimated that this form affects 5-20% of people with macular degeneration. It is characterized by the rapid growth of abnormal blood vessels. Conventional medicine uses laser surgery to ablate the vessels or low-dose radiation therapy. Drugs such as antiangiogenics or anti-vascular endothelial growth factor agents are also used. These drugs are injected directly into the eye and work by shrinking the abnormal blood vessels. Unfortunately, if measures are not also taken to modulate the immune response, this form of the disease can rapidly progress to a point at which laser surgery and drug therapy are completely ineffective. Laser and drug treatment should not be viewed as the lasting or main treatment but as adjunct therapy to the long-term process of modulating the immune response.

Treatment of the dry form and prevention of the wet form of macular degeneration involves the use of antioxidants and natural substances that correct the underlying free radical damage to the macula.

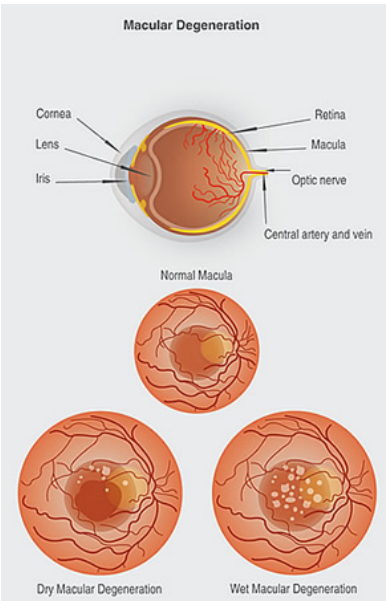


Fluoride & Calcification of Retinal Tissues in the Eye and Pineal Gland?

At this juncture a link between fluoridation and macular degeneration has not been explored. However, it is well known that calcification of the pineal gland is a direct result of fluoridation and many studies in neurology have made a link between the calcification of pineal tissue and Alzheimer's, multiple sclerosis and other neurological disorders. Interestingly, the pineal gland is composed of pinealcytes and retinal tissue that is wired into the visual cortex of the brain. In the 1990s it was discovered that fluoride accumulates in strikingly high levels in the pineal gland. Could fluoridation play a role in reducing blood and oxygen supply to ocular tissues that is seen in macular degeneration? We have yet to find out.

Nutritional Supplementation ...

In many recent studies the lowered antioxidant status of patients with macular degeneration reflects decreases in a COMBINATION of nutrients ... not just in single, individual nutrients. None of these antioxidants alone accounts for the overall impaired antioxidant status in macular degeneration. Therefore supplementation with broad-based antioxidant formulas has been showing the most promising results in halting the progression of macular degeneration.



Useful Nutrients and Botanicals:

A high-potency, broad-based antioxidant multi vitamin-mineral formula: like Biotics Bio-Protect Plus

A high-potency, broad-based antioxidant multi vitamin-mineral, including key carotenoids, specifically formulated to support ocular health: like Biotics Optic Plus

Key carotenoids include: lutein, zeaxanthin, astaxanthin

A high-potency, phosphorylated B-vitamin complex: like Apex Super B-zyme

Bio-available vitamin C with bioflavonoids, at least 1,000 mg a day: like Biotics Bio-C Plus 1,000

Flavonoid-Rich Extracts: in addition to exerting superior antioxidant activity, all of these extracts have been shown to have positive effects on retinal blood flow and function, though bilberry anthocyanosides appear to be the most effective

Bilberry Extract: found in Biotics Optic Plus or purchased as a single extract from Mountain Rose Herbs

Ginkgo Biloba Extract: purchased as a single extract from Mountain Rose Herbs

Grape Seed Extract: purchased as a single extract from Mountain Rose Herbs

Pine Bark Extract: purchased as a single extract from Mountain Rose Herbs

Pre-emulsified Essential Fatty Acids: found in Apex Omega Co3 and Apex Super EFA

Pre-emulsified vitamins A & E: Biotics AE-mulsion, this must not be taken long-term, but staggered for best effect