



## Your Monthly Update

*Dear Colleague*

Welcome to the July newsletter from Pure Bio Ltd.

*By the way:*

Did you know that Pure Bio can provide homeopathic histamine formulas in a range of potencies from D6 up to D200. Simply have your patients phone us with their prescription. Each formula costs £4.99 for 30ml.

Our topic for this month is macular degeneration – a rapidly increasing disease in the western world:

- 1.65 million Americans age 50 and older have advanced stages of AMD, and this number is expected to double by 2030. It is the leading cause of blindness in the US
- Worldwide, as many as 30 million people have AMD in various stages

## Macular Degeneration

Ranking	Nutritional Supplements	Botanical Medicine
Secondary	Lutein and zeaxanthin Multivitamin-multimineral Zinc	Ginkgo biloba
Other	Beta-carotene Carotenes (prevention) (lutein, zeaxanthin, lycopene) Selenium Vitamin C Vitamin E	Bilberry Grape Pip

**Primary** – Reliable and relatively consistent scientific data showing a substantial health benefit.

**Secondary** – Contradictory, insufficient, or preliminary studies suggesting a health benefit or minimal health benefit.

**Other** – An herb is primarily supported by traditional use, or the herb or supplement has little scientific support and/or minimal health benefit.

## Macular Degeneration Explained

The macula consists primarily of cones (there are 125 million rods and 7 million cones in the retina) and they transform light into nerve impulses which are transmitted to the brain via the optic nerve. This is dependent on fluidity of cell membranes, provided by the very high concentration of unsaturated fatty acids in the eye. However, the double bond of unsaturated fatty acid is highly susceptible to free radical attack, leading to lipid peroxidation and eventual membrane rupture and cell death.

### Those most at Risk:

- Age – the risk increases with age
- Cigarette smoking
- Family history of macular degeneration
- Atherosclerosis and elevated cholesterol
- Race – Caucasians are more at risk
- Gender – women appear to be at greater risk than men
- Obesity
- Light eye colour
- Excessive exposure to sunlight

### Dietary Modification

In a preliminary study, high intake of saturated fat and cholesterol was associated with an increased risk of developing macular degeneration.

According to preliminary research, people who eat fish more than once per week have half the risk of developing age-related macular degeneration compared with people who eat fish less than once per month.

Total alcohol consumption has not been linked to macular degeneration in most studies. However, one research group has linked beer consumption to macular degeneration, and in one of two trials, wine drinkers were found to have a significantly *lower* risk of macular degeneration compared with people not drinking wine.

**Consuming a low-fat diet containing abundant amounts of foods high in vitamins C (fresh fruit, especially citrus; potatoes; broccoli) and E (vegetable oils and vegetables such as spinach, peas, celery and broccoli) and carotenoids (squash, carrots, kale, spinach, watercress) has been shown to reduce the chance of developing macular degeneration.**

Increasing the intake of the following foods is also recommended:

- Flavonoid-rich berries (blueberries, blackberries, cherries etc.)
- Spinach and collards for the lutein content. Lutein is a major component of the macular pigment and appears to prevent macular damage resulting from exposure to the blue portion of the spectrum of light.

### Lifestyle Modification

- Stop smoking
- Avoid heavy metals and other sources of free radical exposure
- Wear UV protection for the eyes

### Nutritional Supplement Treatment Options

[Lutein](#) and [zeaxanthin](#) are antioxidants in the carotenoid family.

Harvard researchers reported that people eating the most lutein and zeaxanthin—an average of 5.8 mg per day—had a 57% decreased risk of macular degeneration, compared with people eating the least. In a double-blind study of people with macular degeneration, supplementation with lutein (10 mg per day) for one year significantly improved vision, compared with a placebo. Lutein was beneficial for people with both early and advanced stages of the disease. Lutein and zeaxanthin can be taken as supplements; 6 mg per day of lutein may be a useful amount.

## Antioxidants

Sunlight triggers oxidative damage in the eye, which in turn can cause macular degeneration. People with high blood levels of antioxidants have a lower risk of developing the disease. Those with the highest levels (top 20th percentile) of the antioxidants [selenium](#), [vitamin C](#), and [vitamin E](#) may have a 70% lower risk of developing macular degeneration, compared with people with the lowest levels of these nutrients (bottom 20th percentile). People who eat fruits and vegetables high in [beta-carotene](#) are also at low risk.

Reasonable therapeutic dosages of antioxidants include 200 mcg of selenium, 1,000 mg of vitamin C, 400 IU of vitamin E, and 25,000 IU of natural beta-carotene per day.

## Zinc

Two important enzymes in the retina that are needed for vision require [zinc](#). In a double-blind trial, supplementation with 45 mg of zinc per day for one to two years significantly reduced the rate of visual loss in people with macular degeneration. However, in another double-blind trial, supplementation with the same amount of zinc did not prevent vision loss among people with the exudative form of macular degeneration.

In a blinded six-month study of people with macular degeneration, vision was the same or better in 88% people who took a nutritional supplement, compared with 59% of those who refused to take the supplement (a statistically significant difference). The supplement used in this study contained beta-carotene, vitamin C, vitamin E, zinc, copper, manganese, selenium, and riboflavin.<sup>23</sup> People wishing to take all of these nutrients may supplement with a multivitamin-multimineral formula.

## Flavonoids

Flavonoids such as [quercetin](#) and [rutin](#) also play a role in preventing macular degeneration. A study of 3,072 adults with macular changes showed that moderate consumption of red wine (a natural source of quercetin, rutin and resveritrol) offered some protection against the development of the disease.

## Omega 3 Fatty Acids

Omega 3 fatty acids, particularly combined sources of [EPA and DHA](#), have been shown in repeated trials to reduce the risk of developing macular degeneration

## Taurine

[Taurine](#) deficiency has been shown to lead to retinal degeneration in animal studies. Taurine levels tend to decrease with age.

## Botanical Treatment Options

[Ginkgo biloba](#) may help treat early-stage macular degeneration, according to small, preliminary clinical trials. Recommended dosage is 120 to 240 mg of standardized

extract (24% ginkgo flavone glycosides and 6% terpene lactones) in capsules or tincture equivalent per day.

**[Bilberry](#)**'s active flavonoid compounds, anthocyanosides, act as antioxidants in the retina of the eye. Therefore, supplementing with bilberry would be of value for the prevention or treatment of early-stage macular degeneration. Bilberry has also been shown to strengthen capillaries and to reduce bleeding in the retina. A typical amount of bilberry used in studies was 480–600 mg per day of an extract standardized to contain 25% anthocyanosides, taken in capsules.

**[Grape Pip](#)** extract provides a superior source of proanthocyanidins (oligomeric procyanidin complexes OPCs) which have a positive effect on retinal blood flow and function. Grape pip has been shown to be most useful when there is significant sensitivity to light or poor night vision. Recommended dosage is 100-200 mg per day. We always welcome feedback and suggestions.

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