

Prevention of Macular Degeneration

What is it?

Macular degeneration is the leading cause of blindness in Canada and afflicts people with increasing frequency and severity after the age of 60.

What causes it?

Ironically, this condition is almost certainly caused by the very light that the eye is designed to capture. The cornea and lens of the eye focus most the light energy on to the central part of the retina, known as the macula, because this area provides the most precise vision. Many decades of focusing the higher energy short wavelengths of light, such as blue, violet, and ultraviolet, on this small area (the size of a pinhead) causes increased damage to the vision cells located here, and can sometimes culminate in hemorrhage and scarring, which completely obliterate central vision.

Risk factors

Caucasians, particularly fair-skinned and fair-eyed individuals, are more predisposed because they lack the deeper pigment at the back of the eye possessed by patients of the darker-skinned races, which protects the retina from harmful effects of the sun's radiation. People with a family history of macular degeneration are at greater risk, as are those who have had cataract removal, because of the loss of the protective effect of the increasingly dense cataract.

How to prevent macular degeneration

1. Decrease the light load on the macula by:

- Incorporating an ultraviolet block into any spectacles that you wear.
- In bright sunlight, wearing blue-light-blocking sunglasses (Solar Shields, Noir and others). These are like a second pair of glasses with tinted arms, and they fit over regular spectacles. They should be chosen in amber or orange colours, which block more blue light. The tinted arms probably do not provide much more protection because the light which is destined to fall on the macular part of the retina really only comes from the front.
- Where it is practical to do so, wear a broad-brimmed hat when out of doors during midday hours if there is a lot of sunshine.

2. Enhance the protection of the retina through dietary intake of nutrients:

The secret to protecting the retina is to significantly increase the blood levels of certain antioxidant vitamins. In the past, we have recommended that patients take oral vitamin supplements. It is now becoming increasingly clear that the oral supplements are of only modest help in raising blood levels of vital antioxidants. Recent research has shown conclusively that the best way to achieve high levels of these agents in the blood is through eating a diet rich in fruit and vegetables. However, there is a catch: these foods must not be either cooked significantly or frozen. Raw fruit and vegetables, as well as dried fruit and vegetables, provide the very best source of protection for the macula of the retina, just as they are now known to provide the best protection against the development of cancer or heart disease.

... Prevention of Macular Degeneration Continued

Apart from the disadvantage of the effort required in eating large quantities of uncooked fruit and vegetables, there is the problem of the increased calories provided by the sugars in them. Because of this, a product was developed a few years ago, which encapsulates the enzymes, pigments and vitamins from dried fruit and vegetables. This is "JuicePlus." Four capsules of this a day provide the same levels of blood antioxidant vitamins and fiber as very large quantities of raw fruit and vegetables in their juice form, but with all of the sugar and salt removed. Further information on JuicePlus can be obtained from a representative whose number is available at our front desk. It is not sold in stores. Other brands of dried/crushed fruit and vegetables are available in stores, and these may be fine. However, strong scientific data on efficacy and health value is available only for JuicePlus (see www.juiceplus.com). The local JuicePlus representative can be reached at 655-0918.

If you are at risk of macular degeneration, or if you have had cataract surgery, which may increase the vulnerability of the retina, I would strongly recommend that you significantly increase your fruit and vegetable intake, particularly green leafy vegetables. Ideally this can be done through the JuicePlus capsules. However, this is expensive and will be difficult for some patients to afford. Failing this, it is very important that you consume plenty of fruit and vegetables at each meal, and as much as possible in raw or juice form. Leafy greens are particularly important. Forget about canned or even frozen forms as they are almost completely devoid of antioxidant value. Raw fruits and vegetables deliver a complicated mosaic of vitamins, micronutrients, minerals and fibre that seems to be necessary both for extraction of the best elements of our food and for its utilization in the cells of our body. Their presence in the diet is clearly essential to a long and healthy life, as well as a healthy retina and optimum vision.

3. *Most importantly, it is recommended that you take **Lutein 10-20 mg/day** :*

Lutein and its derivative zeaxanthine are the two actual pigments of the macula, and have strong antioxidant properties as well. By taking Lutein with a bit of fat (a teaspoon of peanut butter or a fish oil capsule), it will be more efficiently absorbed by your body. However it should not be taken with a meal for maximum absorption.

While macular degeneration is the source of much suffering and disability, I strongly believe that careful attention to these simple measures will reduce risk of progression and even possibly accomplish some reversal of loss. In a slow developing condition such as this, it often takes decades to conclusively prove the effectiveness of a given form of treatment. Recent studies strongly support their use. In any case, these measures have no downside risk, and are also known to reduce other health risks such as cancer and heart disease.

Sincerely yours,

Lawrence Brierley M.D.