

Prevention of Cataract and Macular Degeneration (MD) Basic for All Patients

A. Nutrition

Antioxidants – Cataract and MD

1. Fruits and Vegetables

- 5-9 servings / day.
- Your body absorbs nutrition better through natural foods than supplements. There are more than 5,000 nutritional chemicals in fruits and vegetables and their effect is synergistic- they help your body more when consumed together (i.e. in foods) than individually (i.e. in pills).

2. Vitamin and Mineral Supplements.

- Certain chemicals are especially beneficial in a volume you could not obtain through food but can obtain through supplements.
- In 2001 a very large well designed study called AREDS (age related eye disease study), demonstrated that an antioxidant supplement combination of certain vitamins and minerals decreased the progression of macular degeneration by 25%.
- Those under age 13 should only consume children's vitamins.
- The following dose can be obtained by a good multivitamin + 1 or 2 capsules of a good ocular supplement (e.g. Preservision with Lutein)

<i>Supplement</i>	<i>Dose / day</i>	<i>Maximum</i>	<i>Pertinent Information</i>
Vitamin A and / or Beta Carotene (part converted into vitamin A by the body)	5,000 IU total	10,000	Do not use if you smoke; some studies indicate it may increase the risk of lung cancer in smokers. More than 15,000 IU may cause liver problems.
Vitamin C	300 mg.	2,000 mg	
Vitamin E	100 – 200 mg	600	
Zinc	40 mg.	90 mg.	Must be taken in combination with other minerals per FDA controlled pharmaceutically manufactured multivitamin or ocular vitamin

<i>Supplement</i>	<i>Dose / day</i>	<i>Maximum</i>	<i>Pertinent Information</i>
			combinations.

Lutein – MD

- 1 serving / day
- A number of studies demonstrate the huge benefit of lutein in the diet; the enclosed 1999 University of California, Berkley newsletter is an example and identifies many of the foods containing lutein.

Omega-3 Fatty Acids – MD

Minimum 3 1.5 g servings / week.

Common Sources of omega-3's:

- Fattiest saltwater fish the best: salmon, halibut, mackerel, sardines, other fish: shrimp, scallops, vegetable sources: soybeans, walnuts / oil, flaxseeds (ground flaxseed, otherwise much of the nutrition will not be absorbed) / oil, cod liver oil, krill oil.

Vitamin D - MD

- 1 serving / day
- Sources: (many also contain omega-3's): milk, fortified soy or rice beverages, salmon, tuna, sardines, mackerel, cod liver oil, shitake mushrooms, sunlight (in Canada dietary supplements are more important in late fall and winter than in southern climates).

Not Smoking – Cataract and MD

Numerous studies have demonstrated **3x** more cataract and MD in smokers than nonsmokers.

Sun Protection – Cataract and MD

UV

- UV is invisible energy in sunlight that we cannot see.
- Up to age 30 some UV reaches the back of your eye, the retina, to contribute to MD; the younger the person the more UV reaches the retina and the more MD. The damage adds to that from other MD causes and the loss of vision usually does not show up until you are in your 50's or later.
- By age 30 all the UV is being absorbed by your lens to contribute even more than previously to cataract.
- UV protection requires two items for the lenses in your glasses:
 - a) UV 400 filter in the lenses to block UV from going through the lenses into your eyes.
 - b) Multilayer antireflection coating (MAR) on the front and back surfaces, particularly the back, to minimize UV reflection off the lens into your eyes.

The UV 400 filter and MAR can be in clear and tinted lenses; if you are not bothered by the brightness of the sun, you do not need sunglasses; you only need clear glasses with the UV 400 and MAR.

Blue Light

- Blue light is visible energy adjacent to UV in the energy spectrum.
- Some authorities feel that because it is higher energy it also contributes to MD.
- The debate is easily solved by simply having brown tinted sunglasses, not grey or other tints. The brown tint has the additional advantage of increasing your clarity of vision because brown is close to the color yellow in the visual spectrum and yellow is the color that we see best. Most people find a yellow tint too bright; sometimes it is used by professional athletes / marksmen to increase their visual acuity.

Systemic Health – Cataract and MD

Blood sugar Uncontrolled diabetes is a leading cause of macular damage and increases cataract.

Blood pressure and blood cholesterol - good levels extremely important for macular health.

- Regular exercise is important for circulation and helps control blood pressure.

Daily Dose Additional Treatment for Patients with Macular Degeneration or Higher Risk of Macular Degeneration

Needed Y N

Lutein

1 2 Food servings or

1 2 Preservision with lutein (5mg lutein per capsule)

Omega-3

One serving minimally of 1.5 to 3.0 g daily

This extra nutrition will help you and will not harm you if you don't have MD or are not high risk; it is merely more important for those people.